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Welding Engineer

MID-JUNE, 1956

Fact File Issue

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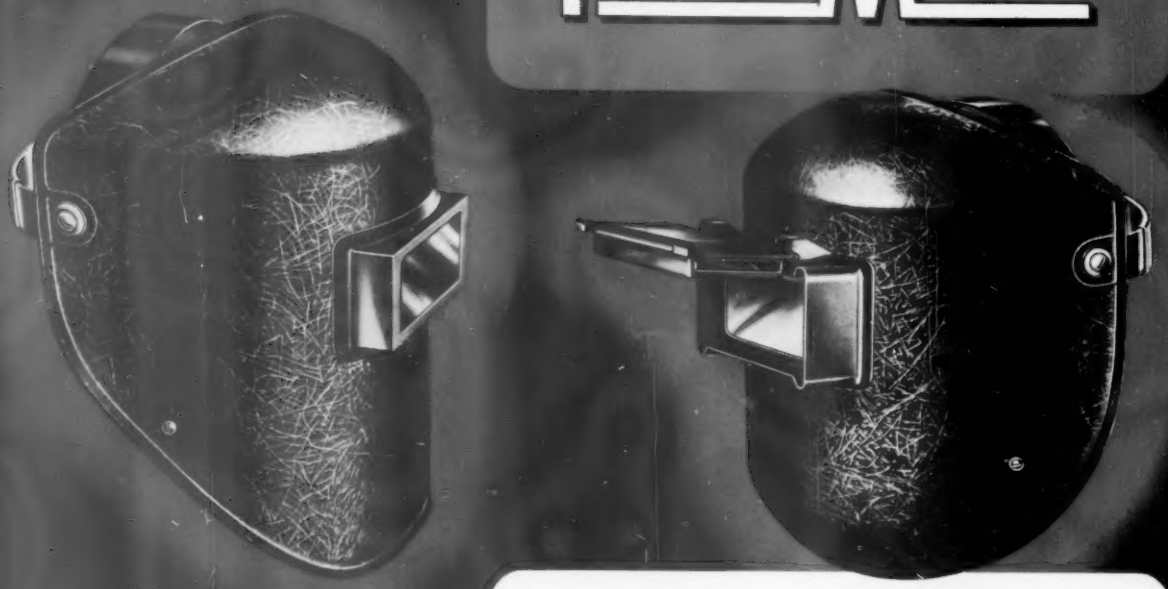

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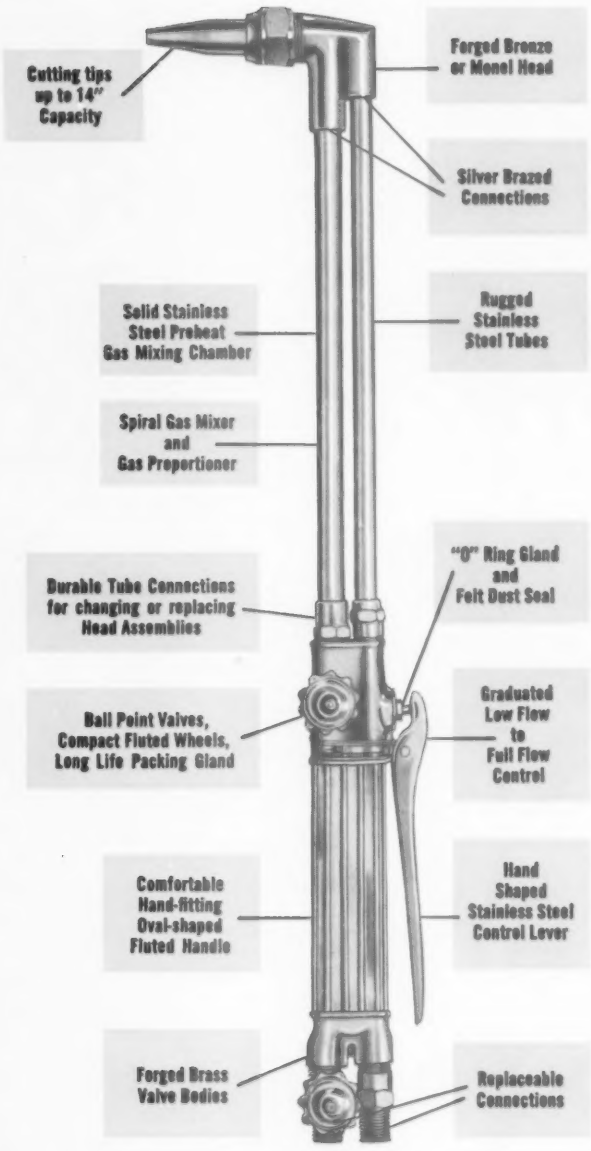
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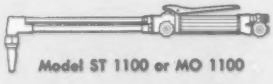
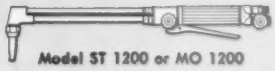

Model ST 1100 or MO 1100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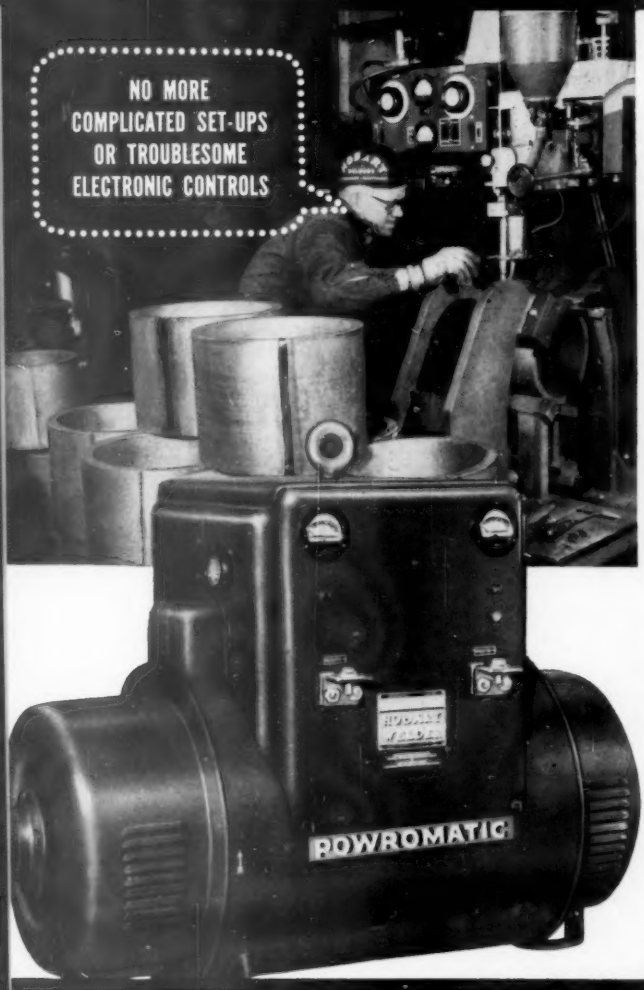

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HOBART

automatic welding

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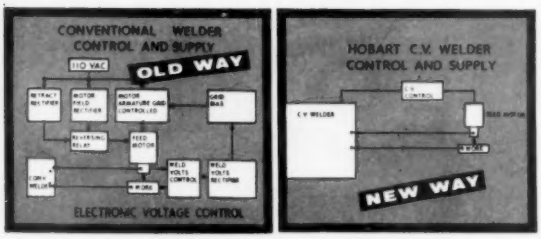

You'll be amazed how easy you can use automatic or semi-automatic welding operations and lower your costs! Hobart's "simplified" method of controls eliminates elaborate installations and complicated, troublesome electronic set-ups. Even less experienced weldors double output and produce higher quality welds.

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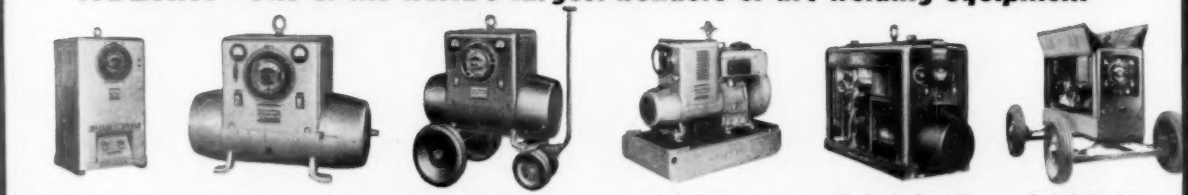

C Transformers
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Portable Electric Drive
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"Husky Boy"
200 Amp. Capacity

"Contractor Special"
aircooled 250 amp.

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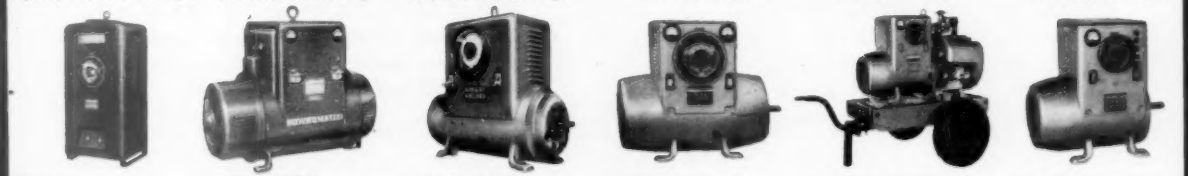
300, 400, 600 Amps.



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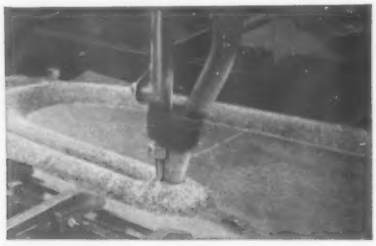

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Welding Engineer

MID-JUNE, 1956
Vol. 41—No. 6A

THE MAGAZINE OF JOINING AND SEVERING OF METALS

America's pioneer publication which, combined with The Acetylene Journal, has been devoted to the interest of the welding and allied industries since 1898

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TED B. JEFFERSON
Editor and Publisher

FELIX T. TANCULA
Executive Editor

JACK FAIRLIE
Associate Editor
AUDREY L. MADSEN
Assistant Editor
B. M. BRITE
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PATRICE L. SIMPSON, *Production*

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WARREN WARE
Western District Manager
12 E. Grand Ave., Chicago 11, Ill.
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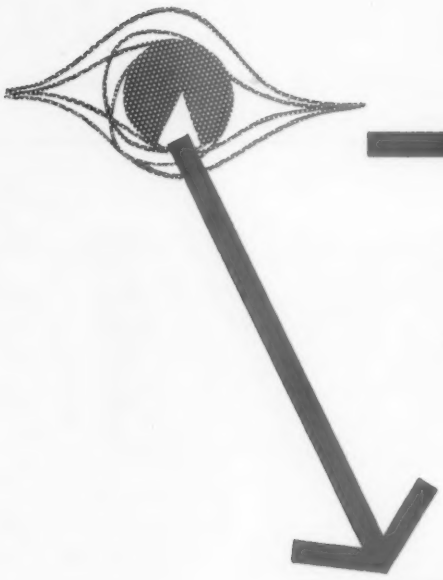

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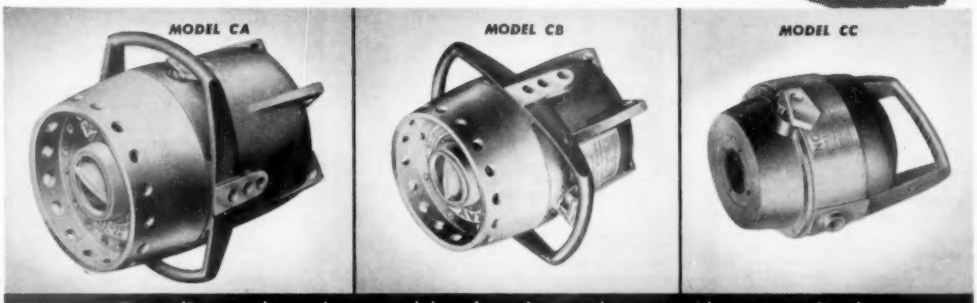
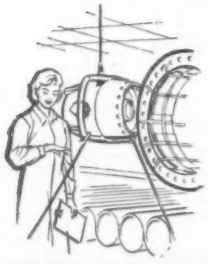


Depending on the projector model and service requirements either encapsulated Cobalt 60, Cesium 137 or Iridium 192 is used as the gamma ray source.

NON-DESTRUCTIVE INSPECTION and TESTING



SAFE

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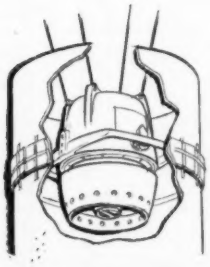

VERSATILE

A single set-up can produce either spot, doughnut, or hemisphere panoramic radiographs. Thick steel sections can be radiographed; sensitivity is so great even incandescent lamp filaments have been radiographed with a KEL-RAY projector.

CONVENIENT

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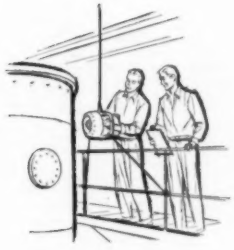

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Useful Conversion Constants

(Logarithms given to facilitate calculations)

Metric to English System

1 meter	39.37 in.	Log 1.5952	or	3.28 ft	Log 0.5160
1 square meter	1,550 sq in.	Log 3.1904	or	10.76 sq ft	Log 1.0320
1 centimeter	0.3937 in.	Log 0.5952—1			
1 sq centimeter	0.1550 sq in.	Log 0.1904—1			
1 millimeter	0.03937 in.	Log 0.5952—2			
1 sq millimeter	0.00155 sq in.	Log 0.1904—3			
1 kilogram	2.2046 pounds	Log 0.3433			
1 kg per meter	0.672 lb per ft	Log 0.8274—1			
1 kg per sq meter	0.2048 lb per sq ft	Log 0.3113—1			
1 kg per sq cm	14.22 psi	Log 1.1529			

English to Metric System

1 inch	2.540 cm	Log 0.4048	25.40	millimeters	Log 1.4048
1 sq inch	6.450 sq cm	Log 0.8096	645.0	sq mm	Log 2.8096
1 foot	30.48 cm	Log 1.4840	0.3048	meters	Log 0.4840—1
1 sq ft	929.0 sq cm	Log 2.9630	0.0929	sq meters	Log 0.9680—2
1 pound	0.4536 kg	Log 0.6567—1			
1 lb per ft	1.488 kg per meter	Log 0.1727			
1 lb per sq ft	4.883 kg per sq meter	Log 0.6887			
1 lb per sq in.	0.07031 kg per sq cm	Log 0.8471—2			

Inches to Feet

1 inch	=0.08333 feet	Log 0.9208—2
1 sq in.	=0.006944 sq ft	Log 0.8416—3
1 cu in.	=0.0005787 cu ft	Log 0.7624—4

Feet to Inches

1 foot	= 12 inches	Log 1.0792
1 sq ft	= 144 sq in.	Log 2.1584
1 cu ft	=1,728 cu in.	Log 3.2376

Formulas involving π

$\pi = 3.1416$	Log 0.4971	πr^2 = area of circle; $\pi r^2 h$ = volume of cylinder
$\frac{1}{4}\pi = 0.7854$	Log 0.8951—1	$\frac{1}{4}\pi d^2$ = area of circle; $\frac{1}{4}\pi d^2 h$ = volume of cylinder
$\frac{1}{3}\pi = 1.0472$	Log 0.0200	$\frac{1}{3}\pi r^2 h$ = volume of right circular cone
$\frac{1}{12}\pi = 0.2618$	Log 0.4179—1	$\frac{1}{12}\pi d^2 h$ = volume of right circular cone
$\frac{4}{3}\pi = 4.1888$	Log 0.6221	$\frac{4}{3}\pi r^3$ = volume of sphere
$\frac{1}{6}\pi = 0.5236$	Log 0.7190—1	$\frac{1}{6}\pi d^3$ = volume of sphere

Feet to Inches:

$\pi \times 12 \times 1$ foot =	37.70 in.	Log 1.5763
$\pi \times 144 \times 1$ sq ft =	452.4 sq in.	Log 2.6555
$\pi \times 1{,}728 \times 1$ cu ft =	5,429 cu in.	Log 3.7347
$\frac{4}{3}\pi \times 1{,}728 \times 1$ cu ft =	7,240 cu in.	Log 3.8597
$\frac{1}{3}\pi \times 1{,}728 \times 1$ cu ft =	1,810 cu in.	Log 3.2576

Inches to Feet:

$\pi \div 12$ inches =	0.2618 feet	Log 0.4179—1
$\pi \div 144$ sq in. =	0.02181 sq ft	Log 0.3387—2
$\pi \div 1{,}728$ cu in. =	0.001818 cu ft	Log 0.2595—3
$\frac{4}{3}\pi \div 1{,}728$ cu in. =	0.002424 cu ft	Log 0.3845—3
$\frac{1}{3}\pi \div 1{,}728$ cu in. =	0.000606 cu ft	Log 0.7824—4

To find areas and volumes by the formulas given above, select the proper constant from those given at left and multiply it by the radius raised to the required power. Example: Volume of a sphere with a radius of 10 in. = $10^3 \times 0.002424$ cu ft = 2.424 cu ft. Conversion is made automatically from inches to feet or vice versa.

Measures of Volume

1 U.S. gallon=231 cu in.=0.1337 cu ft=0.00495 cu yd=3,785.3 cu cm
1 cu in.=0.004329 gal=0.0005787 cu ft=16.39 cu cm
1 cu ft=1,728 cu in.=7.48052 gal=0.03704 cu yd=0.02831 cu meters= 28,310 cu cm
1 cu yd=46,656 cu in.=202.0 gal=27 cu ft=0.7643 cu meters

1 cu meter=61,025 cu in.=264.2 gal=35.32 cu ft=1.308 cu yd=1,000,000 cu cm
1 liter=1,000 cu cm=61.03 cu in.=0.2642 gal
1 cu cm=0.06103 cu in.=0.000001 cu meter=1,000 cu mm
1 cu mm=0.00006103 cu in.=0.001 cu cm

Temperature Data*

This Useful Chart Includes Melting Points And Other Temperature Data

THE accompanying chart not only lists the melting points of various alloys and metals but also serves as a convenient means for conversion between Centigrade and Fahrenheit temperature scales. In addition, on the far right of the scale are shown the color designations that are commonly used in judging the temperatures of hot metal by color.

Melting Points

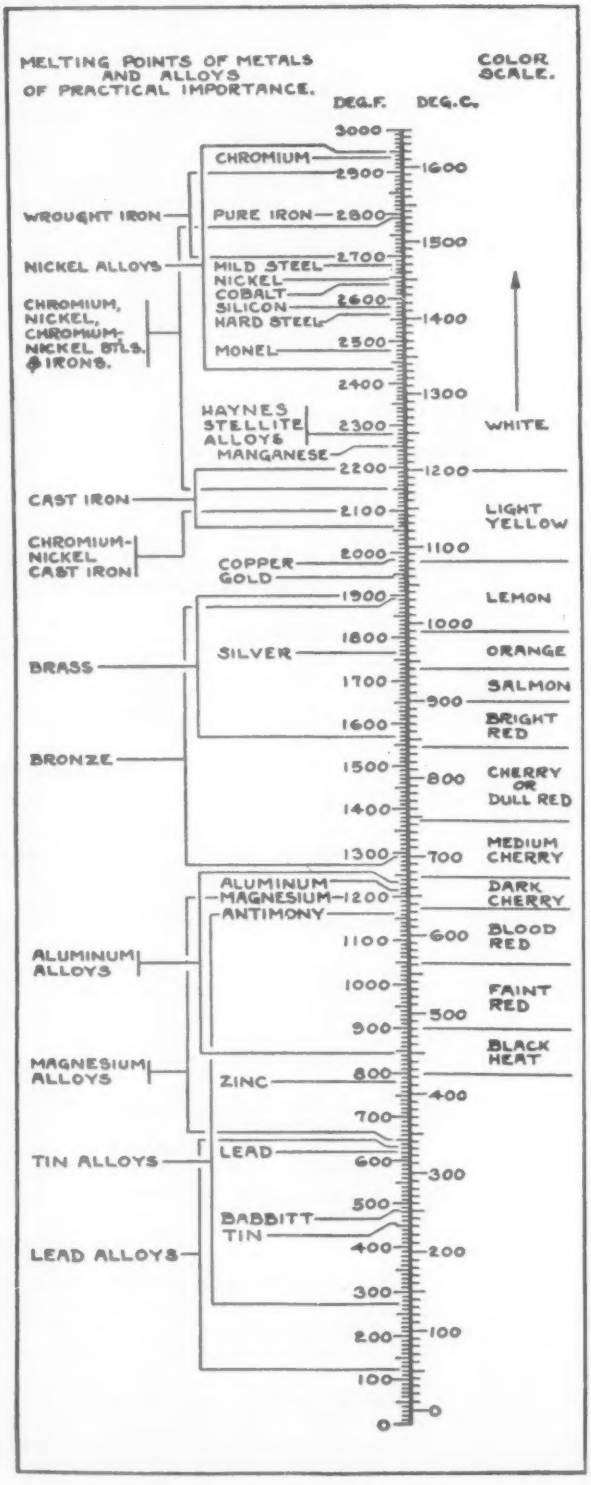
This chart should prove useful to all welding operators for it contains basic information on working with metals at elevated temperatures. Reference to the chart, for instance, shows why aluminum and aluminum alloys, because of their low melting points, give little or no indication by change in color when they approach welding heat. On the other hand, the high melting point of wrought iron explains why considerably more heat is required to weld this metal than is required for cast iron, for instance.

Temperature Color Scale

Another use for the chart is in estimating the temperature by color. For instance, instructions may require that the part be preheated to 1,100 deg. F. before welding. If you are without a thermocouple or other means for accurately measuring high temperatures, reference to the chart shows that the part, at 1,100 deg. F. would have a blood-red color. With a little experience, you can estimate this fairly closely by eye. In this connection, it should be mentioned that the color scale is for observations made in a fairly dark place and without welding goggles. As the light increases, the color groups on the scale will apply to higher temperatures.

Conversion Data

Finally, the chart is a ready means for converting Fahrenheit to Centigrade, and vice versa. Suppose you are familiar with the Fahrenheit scale, yet instructions call for the quenching of a welded part from 900 deg. C. Reference to the chart shows this to be approximately 1,650 deg. F.



*Reprinted from *Oxy-Acetylene Tips*, February, 1942

1956 and your Fact File Issue

FOR THE 14th year in succession, WELDING ENGINEER brings to its readers the *Fact File Issue*. Within the pages of this mid-year edition, you will find the most complete product-reference classification for the welding industry.

The *Fact File* places at your fingertips an accurate and complete buyer's guide of product listings, as well as a reference section of short-cut tables and other items of useful technical and engineering data.

Following the plan inaugurated in 1955, the product listings have been grouped into 10 major classifications to conform with the standardized filing procedure of the National Welding Supply Association—its Tab-Index System.

Some Corrections Made

Some of the difficulties pointed out in last year's *Fact File Issue*, with reference to the NWSA index system have been corrected by that organization. Two sections (Series 800 and 1000), which covered similar groups and which duplicated each other, were confusing. But these groups now have been combined.

In addition, a new classification of *Materials* has been included in the NWSA listing—as was recommended on this page last year.

We are happy to see these two changes.

Further improvements can, of course, be made because there are some items that are difficult to classify according to NWSA standards. Time will help remove some of the obscurity and ambiguities encountered, but your comments could certainly cut appreciably the time required to bring about such changes.

Naturally, we were particularly pleased to see materials included as a major classification. While materials have little or no place in the operation of a welding-supply distributor, they most certainly are of major importance to the reader of WELDING ENGINEER.

Without materials—base metals and plastics—it would be impossible to fabricate a weldment.

Need Your Comments

While we received many favorable comments regarding last year's *Fact File* as a whole, the nature of the response was not what we had anticipated. We are trying to *pre-test* the NWSA Tab-Index System.

But none of you readers made the type of comments that would allow us to go to NWSA with thoughts for improvements in its classification procedures . . . thoughts that might be incorporated into future classification of the standards.

To make our publication more valuable and useful to you, our readers, we must have your reactions. So, again we ask that you let us know how you like . . . or dislike . . . this indexing system.

At the back of this issue, you will find postpaid cards that, although designed for more product information, can be used to voice your opinions of the NWSA standards.

As last year, in the product listings will be found data sheets pertinent to a specific product classification. Treatment of this nature has been welcome in the past. It is our hope that material included in this *Fact File Issue* will prove to be even more valuable to our readers.

These data sheets have been selected from those published monthly in WELDING ENGINEER on the basis of providing ready-reference material on many important phases of welding. We would appreciate suggestions from our readers as to how we may make this section of our *Fact File Issue* even more useful.

Listings Expanded

The list of tradenames included in this issue has been greatly expanded to make it the most complete tradename listing of the welding industry ever compiled. The same is true of the "Manufacturers' names and address list."

In the NWSA Tab-Index System, the first major classification is "Administrative." Since the section deals with policy rather than products, it has been omitted from this *Fact File Issue*.

The major product classifications in both the NWSA and *Fact File* index systems are:

Gases
Gas equipment
Arc equipment
Automatic equipment
Inert-gas equipment
Filler metals and fluxes
Resistance equipment
Materials
Safety and medical equipment
Industrial equipment

The 1956 Fact File Issue is cross-indexed for easy reference. To find the information you desire, look first at the Topical Index starting on page 6. If, by some chance, a listing cannot be found in the Index, look in the general category (arc or gas equipment, materials, etc.) into which the product would most naturally fit.

GASES

AFTER many long years at the top, oxygen and acetylene are still rulers in this kingdom comprising fuels for welding and cutting operations.

However, the years have brought many new members into this family—carbon dioxide, argon, helium, hydrogen, city gas, and liquified-petroleum fuels like propane, butane, etc.

The first three are used as shielding mediums in inert-gas proceses, while the rest are used in flame-cutting operations. Since the last issue of WELDING ENGINEER's Fact File Issue, the welding world has seen the introduction of a variation of the Tig (tungsten inert-gas) process—for cutting non-ferrous metals at high speeds. Various mixtures of argon and hydrogen give best cutting results in this new method.

During 1955 (which saw a $700,000,000 welding market), oxygen and acetylene captured the largest share of the total—more than 60%. Approximately $424,000,000 was spent on these two welding gases alone. Adding other gases would increase this figure substantially—for example, another $19,000,000 was spent for argon.

Gases, therefore, comprise the initial classification of the Tax-Index System of the National Welding Supply Association. This group carries sub-heading numbers 100-199 as follows:

110 General data
120 Cylinders and containers
130 Prices and policy
140 Demurrage and leases
160 Calcium carbide
180 Miscellaneous

To facilitate location of these and other items in the following categories, they have been listed alphabetically rather than by the above-mentioned NWSA sub-headings.

ACETYLENE

Acetylene Gas Co., St. Louis, Mo.
Acetylene Service Co., Denver, Colo.
Air Products, Inc., Allentown, Pa.
Air Reduction Sales Co., New York, N. Y.
Alabama Oxygen Co., Birmingham, Ala.
Alaska Oxygen Co., Fairbanks, Alaska
Aldon Oxygen Mfg. Co., Inc., Collingdale, Pa.
American Compressed Gas Products, Inc., Ft. Wayne, Ind.
American Gas & Chemical Co., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
Atlas Acetylene Co., Kearney, N. J.
Balbach Co., The, Omaha, Neb.
Big Three Welding Equip. Co., Ft. Worth, Texas
Bird Gas Corp., Detroit, Mich.
Buckeye Oxygen Co., Canton, Ohio
Burdett Oxygen Co., The, Cleveland, Ohio
California Oxygen Co., Sacramento, Cal.
Cia. Productora De Oxigeno, S. A., Monterey, Mexico
Commercial Gas Corp., Wilkes-Barre, Pa.
Commonwealth Prods. Co. de Mexico, S. A., Mexico D. F.
Compania Mexicana AGA, S. A., Mexico 1, D. F.
Compania Mexicana de Soldadura Autogena, S. A., Mexico
Corpus Christi Oxygen Co., Corpus Christi, Texas
W. O. DeLille Co., Columbus, Ohio
Delta Oxygen Co., Memphis, Tenn.
Denver Oxygen Co., Inc., The, Denver, Colo.
Dye Oxygen Co., Inc., Phoenix, Ariz.
Thomas A. Edison, Inc., Stuyvesant Falls, N. Y.
Gases Industriales, S. A., San Luis Potosi, S.L.P., Mexico
Gulf Oxygen Co., Inc., Lake Charles, La.
Gaspro, Ltd., Honolulu, T.H.
Houston Oxygen Co., Houston, Tex.
Independent Engineering Co., O'Fallon, Ill.
Indiana Oxygen Co., Indianapolis, Ind.
Industrial Air Products Co., Portland, Ore.
Inland Oxy-Acetylene Co., Inc.
Kansas Oxygen, Inc., Hutchinson, Kan.
Keenan Welding Supplies Co., Albany, Ga.
Linde Air Products Co., New York 17, N. Y.
Liquid Carbonic Corp., Chicago, Ill.
Maine Industrial Gas Co., Lewiston, Me.
Maine Oxyacetylene Co., Auburn, Me.
Marks Oxygen Co., Augusta, Ga.
McDonald Co., B. F., Los Angeles, Cal.
National Welders Supply Co., Charlotte, N. C.
New England Gas Products, Inc., Charlestown, Mass.
National Cylinder Gas Co., Chicago, Ill.
Oklahoma Oxygen Co., Tulsa, Okla.
Oxigeno de Tampico, S. A., Tampico, Tamps., Mexico
Pacific Acetylene Co., San Diego, Calif.
Pacific Oxygen Co., Oakland, Calif.
Puritan Compressed Gas Corp., Kansas City, Mo.
Sabine Oxygen Co., Port Arthur, Texas
Sierra Oxygen Co., Reno, Nevada
Southern Oxygen Co., Washington, D. C.
Steele Gases, Inc., Chicago, Ill.
Stewart Oxygen Co., San Francisco, Calif.
Superior Air Products Co., Newark, N. J.
Superior Industrial Gas Corp., Astoria, N. Y.
Superior Oxy-Acetylene Machine Co., Hamilton, Ohio
Tex-Air Gas Co., Inc., Amarillo, Texas
Trinity Oxygen Co., Ft. Worth, Texas
Valley Oxygen Co., Bay City, Mich.
Valley Oxygen Co., Hanford, California
Welders Supply Co., Little Rock, Ark.
Welding Gas Products Co., Chattanooga, Tenn.
Welding & Industrial Prods., Ltd., Honolulu, T.H.
Welding Materials, Inc., Lemoyne, Pa.
West Texas Oxygen Co., Lubbock, Tex.
Western Oxygen, Inc., Seattle, Wash.
Whitmore Oxygen Co., Salt Lake City, Utah
Wolverine Gas Products, Inc., Saginaw, Mich.

ACETYLENE CYLINDERS

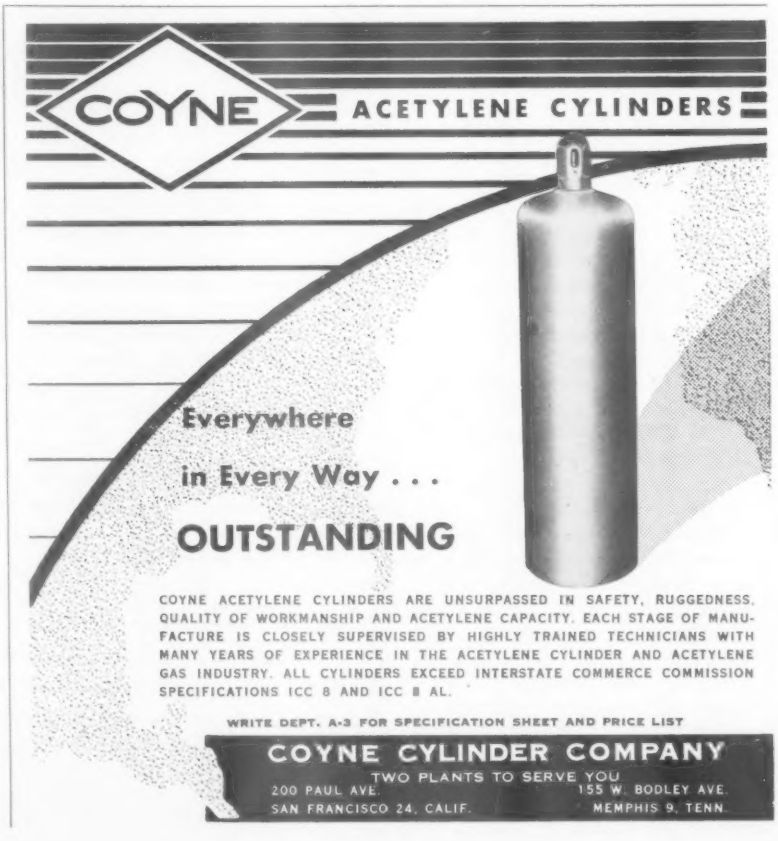
Aetna Cylinders, Inc., Detroit, Mich.
American Gas & Chemical Corp., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
Compressed Gas Cylinders, Inc., Vernon, Calif.
Coyne Cylinder Co., San Francisco, Calif.
Gellid Engineering Corp., Oak Park, Ill.
Harrisburg Steel Corp., Harrisburg, Pa.
Independent Engineering Co., O'Fallon, Ill.
Linde Air Products Co., New York, N. Y.
Modern Engineering Co., Inc., St. Louis, Mo.
National Cylinder Gas Co., Chicago, Ill.
National Tube Co., Div. of U. S. Steel Corp., Pittsburgh, Pa.
Norris-Thermador Corp., Los Angeles, Calif.
Pressed Steel Tank Co., Milwaukee, Wis.
Superior Industrial Gas Corp., Astoria, N. Y.
Taylor Cylinder Div., Cuneo Press, Chicago, Ill.
Wall Colmonoy Corp., Detroit, Mich.

ARGON, Compressed

Air Reduction Sales Co., New York, N. Y.
American Gas & Chemical Corp., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
Buckeye Oxygen Co., Canton, Ohio
Burdett Oxygen Co., The, Cleveland, Ohio
Commercial Gas Corp., Wilkes-Barre, Pa.
Houston Oxygen Co., Houston, Texas
Independent Engineering Co., Inc., O'Fallon, Ill.
Linde Air Products Co., New York, N. Y.
National Cylinder Gas Co., Chicago, Ill.
New England Gas Products, Inc., Charlestown, Mass.
Southern Oxygen Co., Washington, D. C.
Superior Industrial Gas Corp., Astoria, N. Y.
Valley Oxygen Co., Bay City, Mich.

CALCIUM CARBIDE

Air Reduction Sales Co., New York, N. Y.
American Carbide & Chem. Co., St. Louis, Mo.
Linde Air Products Co., New York, N. Y.
Midwest Carbide Corp., Keokuk, Iowa
National Carbide Co., Div. of Air Reduction Co., Inc., New York, N. Y.
National Cylinder Gas Co., Chicago, Ill.
Pacific Carbide & Alloys Co., Portland, Ore.
Shawinigan Products Corp., New York, N. Y.


COYNE
ACETYLENE CYLINDERS
Everywhere
in Every Way . . .
OUTSTANDING
COYNE ACETYLENE CYLINDERS ARE UNSURPASSED IN SAFETY, RUGGEDNESS, QUALITY OF WORKMANSHIP AND ACETYLENE CAPACITY. EACH STAGE OF MANUFACTURE IS CLOSELY SUPERVISED BY HIGHLY TRAINED TECHNICIANS WITH MANY YEARS OF EXPERIENCE IN THE ACETYLENE CYLINDER AND ACETYLENE GAS INDUSTRY. ALL CYLINDERS EXCEED INTERSTATE COMMERCE COMMISSION SPECIFICATIONS ICC 8 AND ICC 8 AL.
WRITE DEPT. A-3 FOR SPECIFICATION SHEET AND PRICE LIST
COYNE CYLINDER COMPANY
TWO PLANTS TO SERVE YOU
200 PAUL AVE. SAN FRANCISCO 24, CALIF.
155 W. BODLEY AVE. MEMPHIS 9, TENN.

CARBON DIOXIDE (Welding Grade)

Acetylene Gas Co., St. Louis, Mo.
Air Reduction Sales Co., New York, N. Y.
Burdett Oxygen Co., The, Cleveland, Ohio
Independent Engineering Co., O'Fallon, Ill.
Liquid Carbonic Corp., Chicago, Ill.
National Cylinder Gas Co., Chicago, Ill.
Pure Carbonic Co., New York, N. Y.
Southern Oxygen Co., Washington, D. C.
Superior Air Products Co., Newark, N. J.
Wolverine Gas Products, Inc., Saginaw, Mich.

CYLINDER CAPS

Coyne Cylinder Co., Memphis, Tenn.
Harrisburg Steel Corp., Harrisburg, Pa.
Independent Engineering Co., Inc., O'Fallon, Ill.
National Cylinder Gas Co., Chicago, Ill.
Norris-Thermador Corp., Los Angeles, Calif.
Taylor-Wharton Iron & Steel Co., Cincinnati, Ohio

HELIUM, Compressed

Air Reduction Sales Co., New York, N. Y.
American Gas & Chemical Corp., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
Buckeye Oxygen Co., Canton, Ohio
Burdett Oxygen Co., The, Cleveland, Ohio
Commercial Gas Corp., Wilkes-Barre, Pa.
Industrial Air Prod. Co., Portland, Ore.
National Cylinder Gas Co., Chicago, Ill.
National Welders Supply Co., Inc., Charlotte, N. C.
New England Gas Products, Inc., Charlestown, Mass.
Southern Oxygen Co., Washington, D. C.
Steele Gases, Inc., Chicago, Ill.
Stuart Oxygen Co., San Francisco, Calif.
Welding Materials, Inc., Lemoyne, Pa.

HYDROGEN, Compressed

Air Reduction Sales Co., New York, N. Y.
American Gas & Chemical Corp., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
Burdett Oxygen Co., The, Cleveland, Ohio
Commercial Gas Corp., Wilkes-Barre, Pa.
Independent Engineering Co., Inc., O'Fallon, Ill.
Indiana Oxygen Co., Indianapolis, Ind.
Linde Air Products Co., New York, N. Y.
Liquid Carbonic Corp., Chicago, Ill.
National Cylinder Gas Co., Chicago, Ill.
New England Gas Products, Inc., Charlestown, Mass.
Southern Oxygen Co., Bladensburg, Md.
Steele Gases, Inc., Chicago, Ill.
Stuart Oxygen Co., San Francisco, Calif.
Superior Industrial Gas Corp., Astoria, N. Y.
Welding Materials, Inc., Lemoyne, Pa.
Western Oxygen, Inc., Seattle, Wash.

OXYGEN, Compressed

Acetylene Gas Co., St. Louis, Mo.
Acetylene Service Co., Denver, Colo.
Air Products, Inc., Allentown, Pa.
Air Reduction Sales Co., New York, N. Y.
Alabama Oxygen Co., Birmingham, Aal.
Alaska Oxygen Co., Fairbanks, Alaska
Aldan Oxygen Mfg. Co., Inc., Collingdale, Pa.
American Compressed Gas Prods., Inc., Ft. Wayne, Ind.
American Gas & Chemical Co., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
Atlas Acetylene Co., Kearney, N. J.
Balbach Co., The, Omaha, Nebr.
Big Three Welding Equipment Co., Ft. Worth, Texas
Bird Gas Corp., Detroit, Mich.
Burdett Oxygen Co., The, Cleveland, Ohio
Buckeye Oxygen Co., Canton, Ohio
California Oxygen Co., Sacramento, Calif.
Cia. Productora De Oxigeno, S. A., Monterey, Mexico
Commercial Gas Corp., Wilkes-Barre, Pa.
Commonwealth Prods., Co. de Mexico, S. A. Mexico, D. F.
Compania Mexicana AGA, S. A., Mexico, D. F.
Compania Mexicana de Soldadura Autogena, S. A., Mexico
Corpus Christi Oxygen Co., Corpus Christi, Texas
Delta Oxygen Co., Memphis, Tenn.
W. C. DeLille Co., Columbus, Ohio
Dye Oxygen Co., Inc., Phoenix, Ariz.
Denver Oxygen Co., Inc., The, Denver, Colo.
Thomas A. Edison, Inc., Stuyvesant Falls, N. Y.
Gases Industries, S. A., San Luis, Potosi, Mexico
Gulf Oxygen Co., Inc., Lake Charles, La.
Gaspro Ltd., Honolulu, T. H.
Houston Oxygen Co., Houston, Tex.
Independent Engineering Co., O'Fallon, Ill.
Indiana Oxygen Co., Indianapolis, Ind.
Industrial Air Products Co., Portland, Ore.
Inland Oxy-Acetylene Co., Inc., Portland, Ore.
Kansas Oxygen, Inc., Hutchinson, Kan.
Keenan Welding Supplies Co., Albany, Ga.
Linde Air Products Co., New York, N. Y.
Liquid Carbonic Corp., Chicago, Ill.
Maine Industrial Gas Co., Lewiston, Me.
Maine Oxyacetylene Co., Auburn, Me.
Marks Oxygen Co., Augusta, Ga.
McDonald Co., B. F., Los Angeles, Calif.
National Cylinder Gas Co., Chicago, Ill.
National Welders Supply Co., Charlotte, N. C.
New England Gas Prods., Inc., Charlestown, Mass.
Oklahoma Oxygen Co., Tulsa, Okla.
Oxigeno de Tampico, S. A., Tampico, Tamps., Mexico
Pacific Acetylene Co., San Diego, Calif.
Pacific Oxygen Co., Oakland, Calif.
Puritan Compressed Gas Corp., Kansas City, Mo.
Sabine Oxygen Co., Port Arthur, Texas
Sierra Oxygen Co., Reno, Nevada
Southern Oxygen Co., Washington, D. C.
Steele Gases, Inc., Chicago, Ill.
Stewart Oxygen Co., San Francisco, Calif.
Superior Air Products Co., Newark, N. J.
Superior Industrial Gas Corp., Astoria, N. Y.
Superior Oxyacetylene Machine Co., Hamilton, Ohio
Tex-Air Gas Co., Inc., Amarillo, Texas
Trinity Oxygen Co., Ft. Worth, Texas
Valley Oxygen Co., Bay City, Mich.
Valley Oxygen Co., Hanford, Calif.
Welders Supply Co., Little Rock, Ariz.
Welding Gas Products Co., Chattanooga, Tenn.
Welding & Industrial Prods., Ltd. Honolulu, T.H.
West Texas Oxygen Co., Lubbock, Tex.
Western Oxygen, Inc., Seattle, Wash.
Whitmore Oxygen Co., Salt Lake City, Utah
Wolverine Gas Products, Inc., Saginaw, Mich.

OXYGEN CYLINDERS

American Gas & Chemical Corp., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
Anker Holth Div., Wellman Engrg. Co., Port Huron, Mich.
Bellows Co., Akron, Ohio
Blackhawk Mfg. Co., Milwaukee, Wis.
Galland-Henning Mfg. Co., Milwaukee, Wis.
Gellid Engineering Corp., Oak Park, Ill.
Hanna Engineering Works, Chicago, Ill.
Harrisburg Steel Corp., Harrisburg, Pa.
Independent Engrg. Co., O'Fallon, Ill.
Linde Air Products Co., New York, N. Y.
Marison Co., The, So. Elgin, Ill.
Modern Engineering Co., Inc., St. Louis, Mo.
National Tube Co., Div. of U. S. Steel Corp., Pittsburgh, Pa.
Norris-Thermador Corp., Los Angeles, Calif.
Pressed Steel Tank Co., Milwaukee, Wis.
Rex Welder & Engineering Co., Kansas City, Mo.
Rivett Lathe & Grinder, Inc., Brighton, Mass.
Superior Industrial Gas Corp., Astoria, N. Y.
Taylor-Wharton Iron & Steel Co., Cincinnati, Ohio

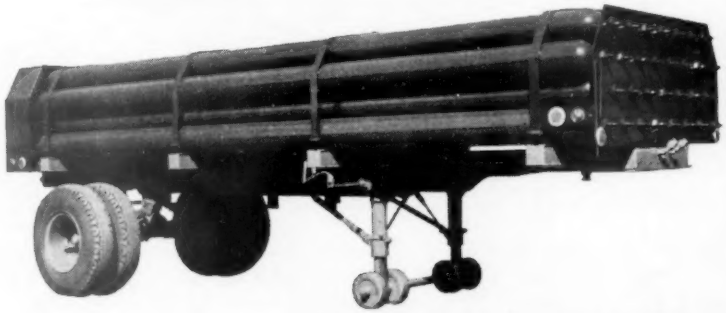
PROPANE CYLINDERS

American Oxygen Service Corp., Harrison, N. J.
Compressed Gas Cylinders, Inc., Vernon, Calif.
Goss Gas, Inc., Glenshaw, Pa.
Harrisburg Steel Corp., Harrisburg, Pa.
Linde Air Products Co., New York, N. Y.
Marison Co., The, So. Elgin, Ill.
National Tube Co., Div. of U. S. Steel Corp., Pittsburgh, Pa.
Pressed Steel Tank Co., Milwaukee, Wis.

REDUCE CYLINDER HANDLING up to 50%

with INDEPENDENT *Gas Supply TRAILERS*

TRANSPORTING — Argon — Carbon Dioxide — Helium — Nitrogen — Oxygen — Boron Trifluroide — Hydrogen — Ethylene. Trailer capacities from 187,000 cu. in. to 750,000 cu. in. water capacity. Trailer tubes ICC3A-2400 Specifications with 2400 PSIG Working Pressure.



Sizes and weights to meet all State requirements.

Can be mounted on bases for permanent storage.

INDEPENDENT ENGINEERING CO., Inc.

CONSULTING · RESEARCH · DESIGNING

O'FALLON 5, ILLINOIS

COMPLETE ADDRESSES OF THESE AND OTHER MANUFACTURERS

can be found in

NAMES AND ADDRESSES SECTION

Welding Tip Numbers Compared to Drill Size of Orifice

(When cleaning tips, it is recommended that one size smaller drill be used)

DRILL SIZES → Tradename	Series	80	79 78	77	76 75	74	73 72	71	70 69	68	67 66	65	64 63	62	61 60	59	58 57	56	55 54	53	52 51	50	49 48
Airco	All				00		0			1				2				3	4		5		6
Craftsman	AA						0	1						2					3				4
Dockson	4EC, 4SC, 7SC		1			2					3					4		5		6		7
	7EC		1			2					3					4		5		6		7
Gasweld	G25, G35					00	0		1			2				3		4	5	6		7
	G55	00		0		1			2							3		4	5	6		
	AVG	00		0		1			2						4		5		6	7		8	
Harris	13, 14, 16, 17, 50 23, 13-F, 23A swedged, 17-F swedged		00		0			1		2				2		3		4		5	6		7
						00		0			1			2		3		4	5	6		7	
K-G	EUS, KUS, KS				75		72			68				62				56		53		50	
Marquette	A, A1				00				0		1			2			3		4			5	
	B, B1		00B		0B		1B			2B				3B				4B	5B		6B		7B
Meco	All	00		0					1			2					3		4		5		
Milburn	W-200	00	0	1					2					3			4		5		6		7
	W-100							000		00			0				1		2		3		4
	W-600	0000		000		00			0			1		2		3		4		5		6	
National	G	00		0			1				2							3			4		
	P			0			1				2							3			4		
	R				000				00			0			1			2	3				
Oxweld	W-29					1			2			4						6	9	12		15	
	W-17											4						6	9	12		15	20
Prest-O-Weld	W-109				1					2					3			4		5		6	
	W-110, W-111				1			2		3				4			5		6[1]	7		8	
Purox	33	0			1					2					3			4		5		6	
	34					1					2								4			6	
	35										2						3			5			
Rego	GP, GX, GXU, SX						72			68				62		58			55	53		50	
Smith	Lifetime							B60					B61			B62			B63	B64			B65
	No. 5							50					51			52			53	54			55
	No. 2		18		19	A20		A21		A22		A23		A24		A25		A26	A27	A28		A29	A210
Torchweld	GP 570, 870						72			68				62		58			55	53		50	
	170	79			76		72			68				62		58			55	53		50	
	71				76		72			68				62		58			55	53		50	
Victor	All				000		000½		00		00½	0	0½		1		1½	2	2½	3	3½		4
Weldit	All		00		0			1				2				3			4	5	6		7

DRILL SIZES → Tradename	Series	47 5/64" 46	45 44 43	42 41 40	39 38 37	36 35 34	33 32 31	1/8 30 29	28 27 26	25 24 23	22 21 20	19 18 17
Airco	All		7	8[7]		9		10		11	12[8]	
Craftsman	AA			5	6		7[5]	8				
Dockson	4EC, 4SC, 7SC		8	9		10	11	12	13 14	15		
	7EC		8									
Gasweld	G25, G35		8	9 10	11	12 13	14 15	16				
	G55		8									
Harris	13, 14, 16, 17, 50 23, 23A swedged, 13-F, 17-F swedged	8	8 9 9	10 10			12	15[4]	19	22		
K-G	EUS, KUS, KS		45	40[9]		35		30[6]		25		20
Marquette	A, A1	6	7	8		9	10XH	11XH	12XH	14XH		
Meco	All	6		7		8		9	10		11	12
Milburn	W-200		8	9		10	11	12 13		14	15	16
	W-100		5	6 7		8 9	9 10	10	12	13	14 15	
	W-600		7	8								
National	G	5		6								
	P	5		6	7	8	9	10				
	R	4	5				6	7 8	9 10 11	12		
Oxweld	W-29	20		30				55 70			125	150
	W-17		30	40						90		
	W-26								100			
Prest-O-Weld	W-109	7	8									
	W-111		9	10		11	12	13				
Purox	33	7	8									
	34			8		10						
	35	7			9		11	13		15		
Rego	GP, GX, GXU, SX	46[3]		42		36	31[6]			25	20	
Smith	Lifetime		B66	B67		B68	B69		B610 B611	B612		
	No. 5		56	57								
Torchweld	GP 570, 870	46		42		36	31[9]			25	20	
	170, 71	46										
Victor	All		5			6		7 8	9 10 11	12		
Weldit	All		8 9	10	11	12	14	16				

[1] W-110 to No. 6 Tip only. [2] Airco Tip No. 13 = Drill Size No. 10; No. 14 = Drill No. 2; No. 15 = ¼ in. drill. [3] Tips No. 7 and 8 require special gooseneck. [4] 13-F and 17-F Swedged to No. 15 Tip only. [5] EUS to No. 40 Tip only. [6] KUS to No. 30 Tip only. [7] 8X to No. 46 Tip only. [8] GXU and GP to No. 31 only. [9] GP 570 toNo. 31 only.

GAS EQUIPMENT

THE 200 series of the NWSA index includes all types of equipment for gas welding and flame-cutting, as well as gas equipment for brazing, soldering, etc.

In addition to accessories, this general category comprises gas-production and storage equipment such as generators, manifolds, etc.

During the past calendar year, gas equipment and accessories constituted a market of almost $40,000,000.

The sub-headings of this group are:

210 Outfits
220 Torches
230 Regulators
240 Gas-air equipment
250 Machines, flame-cutting
260 Generators, acetylene
270 Manifolds and piping
280 Miscellaneous
290 Accessories

ACETYLENE GAGES

(See: "Oxygen & Acetylene Gages")

ACETYLENE GENERATORS

Adler Mfg. Co., Chicago, Ill.
Air Products, Inc., Allentown, Pa.
Air Reduction Sales Co., New York, N. Y.
Eagle Welding Equipment Co., Chicago, Ill.
Independent Engineering Co., O'Fallon, Ill.
Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Miles, John R. R., Inc., Minneapolis, Minn.
Modern Engineering Co., St. Louis, Mo.
National Cylinder Gas Co., Chicago, Ill.
Port-O-Matic, Inc., Hillsboro, Oregon
Sight Feed Generator Co., The, West Alexandria, Ohio
Superior Air Products Co., Newark, N. J.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Welderz-Frend Generator Co., Lubbock, Texas

ACETYLENE REGULATOR ADAPTERS

Air Reduction Sales Co., New York, N. Y.
Burdett Oxygen Co., The, Cleveland, Ohio
Craftsweld Equipment Corp., Long Island City, N. Y.
Dockson Corp., Detroit, Mich.
Goss Gas, Inc., Glenshaw, Pa.
Harris Calorific Co., The, Cleveland, Ohio
K-G Equipment Co., Inc., Allentown, Pa.
Liquid Carbonic Corp., Chicago, Ill.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Metro Manufacturing Co., Long Island City, N. Y.
Milburn, Alexander, Inc., Baltimore, Md.
Miles, John R. R., Inc., Minneapolis, Minn.
Modern Engineering Co., St. Louis, Mo.
Nageldinger, J., & Son, Inc., New York, N. Y.
National Cylinder Gas Co., Chicago, Ill.
National Welding Equip. Co., San Francisco, Calif.
Smith Welding Equip. Corp., Minneapolis, Minn.
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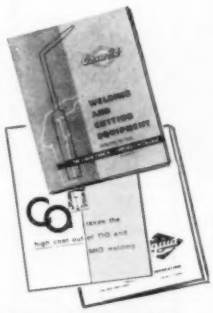

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(See: "Brazing Torches")

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Eagle Manufacturing Co., Wellsburg, W. Va.
Gem Manufacturing Co., Pittsburgh, Pa.
Hauck Mfg. Co., Brooklyn, N. Y.
Insto-Gas Corp., Detroit, Mich.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Justrite Mfg. Co., Chicago, Ill. (Gasoline, benzine, and naphtha).
MacLeod Co., The, Cincinnati, Ohio
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Pressure Products Corp., Skokie, Ill.
Sight Feed Generator Co., The, West Alexandria, Ohio
Smith, A. O., Corp., Milwaukee, Wis.
Sterling Utilities Co., Inc., Brooklyn, N. Y.
Torit Manufacturing Co., St. Paul, Minn. (Kerosene only).
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Twentieth Century Mfg. Co., Minneapolis, Minn.
Unique Mfg. Co., Inc., Chicago, Ill.
Weldit, Inc., Detroit, Mich.

BRAZING MACHINES, Gas

(See: "Gas-Brazing Machines")

BRAZING OUTFITS, Gas

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Beaverdell Co., Chicago, Ill.
Dockson Corp., Detroit, Mich.
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Hoke, Incorporated, Englewood, N. J.
Imperial Brass Mfg. Co., The, Chicago, Ill.
K-G Equipment Co., Inc., Allentown, Pa.
Liquid Carbonic Corp., Chicago, Ill.
Marquette Mfg. Co., Minneapolis, Minn.
Milburn, Alexander, Inc., Baltimore, Md.
Modern Engineering Co., St. Louis, Mo.
Nageldinger & Son, Inc., J., New York, N. Y.
National Cylinder Gas Co., Chicago, Ill.
Purity Cylinder Gases, Inc., Grand Rapids, Mich.
Selas Corp. of America, Philadelphia, Pa.
Sight Feed Generator Co., The, West Alexandria, Ohio
Smith Welding Equip. Corp., Minneapolis, Minn.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Velocity Power Tool Co., Pittsburgh, Pa.
Victor Equipment Co., San Francisco, Calif.
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Eutectic Welding Alloys, Corp., Flushing, N. Y.
Gasflux Co., The, Elyria, Ohio
Special Chemicals Corp., Ossining, N. Y.

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Dockson Corp., Detroit, Mich.
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Imperial Brass Mfg. Co., The, Chicago, Ill.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
K-G Equipment Co., Inc., Allentown, Pa.
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Purity Cylinder Gases, Inc., Grand Rapids, Mich.
Sight Feed Generator Co., The, West Alexandria, Ohio
Smith Welding Equip. Corp., Minneapolis, Minn.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Universal Cutting & Welding Equip. Mfg. Co., Ft. Lauderdale, Fla.
Velocity Power Tool Co., Pittsburgh, Pa.
Victor Equipment Co., San Francisco, Calif.
Weldit, Inc., Detroit, Mich.
Worcester Taper Pin Co., Worcester, Mass.

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Gas Appliance Service, Inc., Chicago, Ill.
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Hauck Manufacturing Co., Brooklyn, N. Y.
Hones, Charles A., Inc., Baldwin, L. I.

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White, L. B., Co., Onalaska, Wis.

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Hones, Charles A., Inc., Baldwin, L. I.
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Victor Equipment Co., San Francisco, Calif.
Weldit, Inc., Detroit, Mich.

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MacLeod Co., The, Cincinnati, Ohio
Mahr Mfg. Co., Div. Diamond Iron Works, Minneapolis, Minn.
Sandvik Saw & Tool (Division of Sandvik Steel, Inc.), New York, N. Y.

CUTTING MACHINES, Gas

(See: "Flame-Cutting Machine")

CYLINDER TRUCKS

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American Metal Prod. Co., Worcester, Mass.
American Oxygen Service Corp., Harrison, N. J.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Dur-A-Bilt Products, Sussex, Wis.
Gar-Bro Mfg. Co., Los Angeles, Calif.
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Grand Specialties Co., Chicago, Ill.
Harris Calorific Co., The, Cleveland, Ohio
K-G Equipment Co., Inc., Allentown, Pa.
Miles, John R. R., Inc., Minneapolis, Minn.
Milwaukee Truck & Caster Corp., Milwaukee, Wis.
National Cylinder Gas Co., Chicago, Ill.
National Welders Supply Co., Charlotte, N. C.
National Welding Equip. Co., San Francisco, Calif.
Pacific Hardware & Steel Co., Inc., San Jose, Calif.
Pioneer Welding Mfg. Co., Kalamazoo, Mich.
Randall Mfg. Co., North Kansas City, Mo.
Revolvator Co., North Bergen, N. J.
Smith, Gordon, Co., Bowling Green, Ky.
Smith Welding Equip. Corp., Minneapolis, Minn.
Thomas Truck & Caster Co., Keokuk, Iowa
Victor Equipment Co., San Francisco, Calif.
Welded Truck & Specialty Co., Inc., Chicago, Ill.
Weldrite Co., Inc., Long Island City, N. Y.
Will-Weld Mfg. Co., Inc., Omaha, Nebraska
Young, C. W., Mfg. Corp., East Syracuse, N. Y.

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General Scientific Equip. Co., Philadelphia, Pa.
Harris, Arthur, & Co., Chicago, Ill.

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(See: "Tip-Cleaners")

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National Cylinder Gas Co., Chicago, Ill.
Quaker Rubber Corp., Philadelphia, Pa.
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Thermoid Hose Co., Trenton, N. J.
Victor Equipment Co., San Francisco, Calif.

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Industrial Scientific Co., New York, N. Y.
Struthers Wells Corp., Titusville, Pa.
Westinghouse Electric Corp., Pittsburgh, Pa.

FLAME-CUTTING GUIDES

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Air Reduction Sales Co., New York, N. Y.
American Oxygen Service Corp., Harrison, N. J.
Cut-O-Guide Sales Co., Cleveland, Ohio
Eagle Welding Equipment Co., Chicago, Ill.
General Welding & Equip. Co., Boston, Mass.
Harris Calorific Co., The, Cleveland, Ohio
Har-Worth Mfg. Co., Newark, N. J.
K-G Equipment Co., Inc., Allentown, Pa.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Milburn, Alexander, Inc., Baltimore, Md.
Modern Engineering Co., St. Louis, Mo.
Ree Associates, Bogota, N. J.
Scientific Research Co., Portland, Ore.
Shrader, F. W., Co., Culver City, Calif.
Victor Equipment Co., San Francisco, Calif.

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Air Reduction Sales Co., New York, N. Y.
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Burdett Oxygen Co., The, Cleveland, Ohio
Cogmatic Co., Milwaukee, Wis.
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Gaso Equipment Co., Chicago, Ill.
General Welding & Equip. Co., Boston, Mass.
H & M Pipe Beveling Machine Co., Tulsa, Okla.
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Hayes Track Appliance Co., Richmond, Ind.
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Idaho Sprocket & Mach. Wks., Boise, Idaho
Indiana Oxygen Co., Indianapolis, Ind.
Industrial Oxygen Co., Louisville, Ky.
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Krohn Mfg. & Supply Co., Centreville, Mich.
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Linde Air Products Co., New York, N. Y.
Metro Mfg. Co., Long Island City, N. Y.
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Pandjiris Weldment Co., St. Louis, Mo.
Peck, Cecil C., Co., Cleveland, Ohio
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Imperial Brass Mfg. Co., The, Chicago, Ill.
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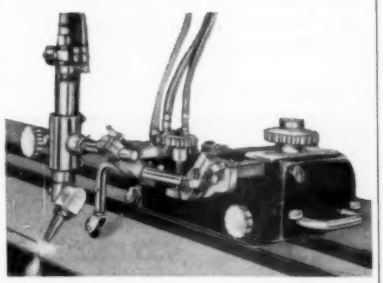

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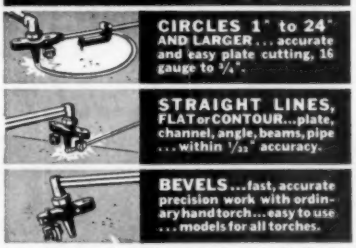
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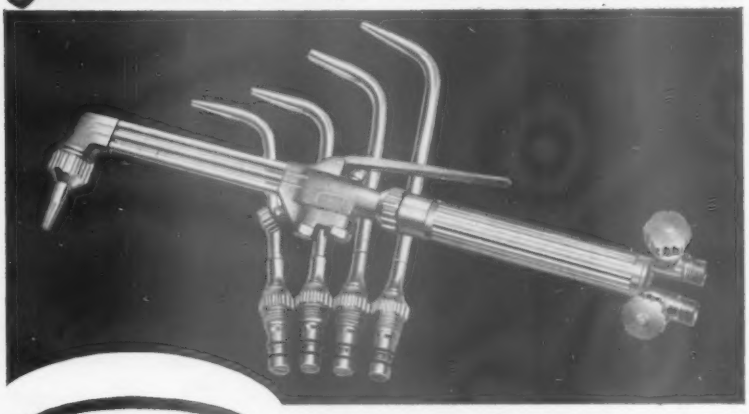

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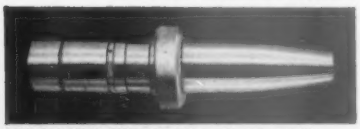

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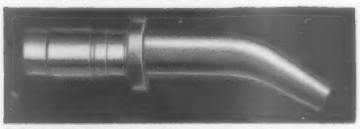

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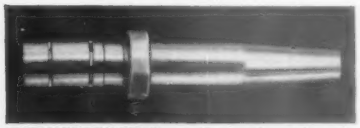

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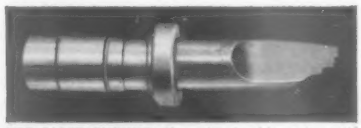

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Smith Welding Equip. Corp., Minneapolis, Minn.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Thermacote Welding Prod. Co., Newark, N. J.
Universal Cutting & Welding Equip. Mfg. Co., Ft. Lauderdale, Fla.
Victor Equipment Co., San Francisco, Calif.
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Worcester Taper Pin Co., Worcester, Mass.

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Dockson Corp., Detroit, Mich.
General Welding & Equip. Co., Boston, Mass.
Goss Gas, Inc., Glenshaw, Pa.
Harris Calorific Co., The, Cleveland, Ohio
K-G Equipment Co., Inc., Allentown, Pa.
Linde Air Products Co., New York, N. Y.
Liquid Carbonic Corp., Chicago, Ill.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Milburn, Alexander, Inc., Baltimore, Md.
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Modern Engineering Co., St. Louis, Mo.
National Cylinder Gas Co., Chicago, Ill.
National Torch Tip Co., Pittsburgh, Pa.
National Welding Equip. Co., San Francisco, Calif.
Smith Welding Equip. Corp., Minneapolis, Minn.
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General Scientific Equip. Co., Philadelphia, Pa.
Industrial Products Co., Philadelphia, Pa.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
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Ragle, J. M., Industries, Kansas City, Mo.
Randall Mfg. Co., No. Kansas City, Mo.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety Gas Lighter Co., Lynn, Mass.
Smith, G. W., & Sons, Inc., Dayton, Ohio
Smith Welding Equip. Corp., Minneapolis, Minn.
Victor Equipment Co., San Francisco, Calif.

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Dalweld Co., Mt. Vernon, N. Y.
Eclipse Fuel Engineering Co., Rockford, Ill.
Eisler Engineering Co., Inc., Newark, N. J.
Gas Appliance Service, Inc., Chicago, Ill.
Gasflux Co., The, Elyria, Ohio
Modern Engineering Co., Inc., St. Louis, Mo.
Peck, Cecil C., Co., Cleveland, Ohio

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Dockson Corp., Detroit, Mich.
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General Welding & Equipment Co., Boston, Mass.
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National Welding Equip. Co., San Francisco, Calif.
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General Scientific Equip. Co., Philadelphia, Pa.
Goss Gas, Inc., Glenshaw, Pa.
Harris Calorific Co., The, Cleveland, Ohio
Imperial Brass Mfg. Co., Chicago, Ill.
Insto-Gas Corp., Detroit, Mich.
K-G Equipment Co., Inc., Allentown, Pa.
Linde Air Products Co., New York, N. Y.
Milburn, Alexander, Inc., Baltimore, Md.
Modern Engineering Co., St. Louis, Mo.
National Cylinder Gas Co., Chicago, Ill.
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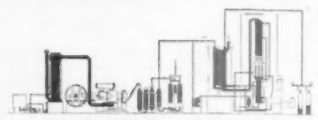

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Eastern Equipment Co., Inc., Willow Grove, Pa.
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Roylyn Corp., Glendale, Calif.
Vernon Tool Co., Ltd., Alhambra, Calif.

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H & M Pipe Beveling Machine Co., Tulsa, Okla.
Oster Mfg. Co., The, Cleveland, Ohio
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Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

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Campbell Machine Division, Am. Chain & Cable Co., Inc., Bridgeport, Conn.
H & M Pipe Beveling Machine Co., Tulsa, Okla.
Kling Bros. Engineering Works, Chicago, Ill.
National Cylinder Gas Co., Chicago, Ill.
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Pandjiris Weldment Co., St. Louis, Mo.
Speedi-Burn Products Co., West Hempstead, N. Y.
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Vernon Tool Co., Ltd., Alhambra, Calif.

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National Cylinder Gas Co., Chicago, Ill.

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(See: "Oxyacetylene Pressure Welders")

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Dockson Corp., Detroit, Mich.
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Harris Calorific Co., The, Cleveland, Ohio
Hoke, Inc., Englewood, N. J.
Imperial Brass Mfg. Co., The, Chicago, Ill.
K-G Equipment Co., Inc., Allentown, Pa.
Linde Air Products Co., New York, N. Y.
Liquid Carbonic Corp., Chicago, Ill.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Milburn, Alexander, Inc., Baltimore, Md.
Miles, John R. R., Inc., Minneapolis, Minn.
Modern Engineering Co., St. Louis, Mo.
National Cylinder Gas Co., Chicago, Ill.
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Reiner & Campbell Co., Inc., Elizabeth, N. J.
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Torit Manufacturing Co., St. Paul, Minn.
Velocity Power Tool Co., Pittsburgh, Pa.
Victor Equipment Co., San Francisco, Calif.
Wassco Electric Products Corp., Joliet, Ill.
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American Oxygen Service Corp., Harrison, N. J.
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Beaverdell Co., The, Phoenix, Arizona
Becker Bros. Carbon Co., Cicero, Ill.
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Dockson Corp., Detroit, Mich.
Eclipse Fuel Engineering Co., Rockford, Ill.
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Electroloy Co., The, Inc., Bridgeport, Conn.
General Welding & Equipment Co., Boston, Mass.
Imperial Brass Mfg. Co., Chicago, Ill.
K-G Equipment Co., Inc., Allentown, Pa.
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Liquid Carbonic Corp., Chicago, Ill.
Mallory, P. R. & Co., Inc., Indianapolis, Ind.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Milburn, Alexander, Inc., Baltimore, Md.
Miles, John R. R., Inc., Minneapolis, Minn.
Modern Engineering Co., St. Louis, Mo.
Purity Cylinder Gases Inc., Grand Rapids, Mich.
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Smith Welding Equip. Corp., Minneapolis, Minn.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Universal Cutting & Welding Equip. Mfg. Co., Ft. Lauderdale, Fla.
Welders Supply & Mfg. Co., The, Cincinnati, Ohio

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Modern Engineering Co., St. Louis, Mo.
National Cylinder Gas Co., Chicago, Ill.
National Torch Tip Co., Pittsburgh, Pa.
National Welding Equip. Co., San Francisco, Calif.
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Thermacote Co., Los Angeles, Calif.
Universal Cutting & Welding Equip. Mfg. Co., Ft. Lauderdale, Fla.
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Wolfe-Kote Co., Inc., Sheboygan, Wis.

TORCH LIGHTERS

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Allied Weld-Craft, Inc., Indianapolis, Ind.
American Oxygen Service Corp., Harrison, N. J.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Flint Products Co., The, Brooklyn, N. Y.
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Cutting-Tip Numbers Compared by Drill Size of Cutting-Oxygen Orifice

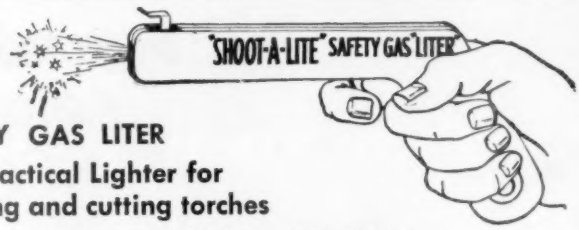
(When cleaning tips, it is recommended that one size smaller drill be used)

Tradename	Series	79 80 78	77 75 76	73 74 72	71 69 70	67 68 66	65 63 64	61 62 60	59 57 58	55 56 54	53 52 1/16"	50 51 49
Airco	124, 144, 164 195, 198, 199					00		0		1 2	3	4
Craftsman	B							1		2	3	4
Dockson	All							1		2		3
Gasweld	HC-31, HC-32, HC-39 WC-20[1], WC-35[1] WC-10[1], WC-55[1]				00	0 0		1	2	1	2	
Harris	2890-F 6290 7490-A				00	00	0	0 00	0	1 1 1 2	2	2 3
K-G	M4, M5					68[2]		62		56	53	50
Marquette	E[1] C, D[1], D1[1.3] C, D[1], D1[1.4]						1B	2B 0A 0A		1A 1A	2A	2A
Meco	All					0[5]			1	2		
Milburn	X-100 X-2000 X-2300						00 00	0 0	1 1	1 2 2	2	3 3
National	All							0	1	2		3
Oxweld	CW-29[1] CW-23[1], C-31, C-32		2 2			3		4 4			6	
Prest-O-Weld	CW-109[1] CW-110[1], C-111						0	1 1			2	
Purox	38[1] 34, 35					0		1 1		2		3
Rego	All					68		62		56	53	51
Smith	Lifetime, Longlife[1.3] Lifetime, Longlife[1.4] Airline[1], Midline[1]						0 1	0 2		1 2 1 3 5	3 2 4	
Torchweld	280, 250, 251					68[6]		62		56	53	51
Victor	All			000			00		0	1	2	3
Weldit	S-25, S-37, S-45									1	2	

Tradename	Series	47 48 46	45 43 44	41 42 40	39 37 38	35 36 34	33 31 32	1/8" 29 30	27 28 26	25 23 24	21 22 20	19 17 18
Airco	124, 144, 164, 195, 198, 199		5	6		7		8	9			10[7]
Craftsman	B		5	6		7						
Dockson	All		4			5	6		7 8			
Gasweld	HC-31, HC-32, HC-39, WC-20[1], WC-35[1]		3			4 5						
Harris	2890-F 6290 7490-A		3 3	4		4 4 5	5	5 6				
K-G	M4, M5 M6		45	40		35		30		25		
Marquette	C, D[1], D1[1.3] C, D[1], D1[1.4]		3A		3A 4A[8]			4A 5A	6A			
Meco	All		3			4		5	6			
Milburn	X-100 X-2000 X-2300	3 4	4 5 4	5 6 6 5	7 7	8 8 6	9	10 11 7	12 8		9	10 11[9]
National	All	4		5	6		7	8				
Oxweld	CW-23[1], C-31 C-32	8			10		12					
Prest-O-Weld	CW-110[1], C-111	3				4 5						
Purox	35		4									
Rego	All	46		42		35		30		25		
Smith	Lifetime, Longlife[1.3] Lifetime, Longlife[1.4]	4 3		4				5		6		
Torchweld	280, 250, 251	46		42		35		30		25		18[11]
Victor	All		4	5		6			7			
Weldit	S-25, S-37, S-45		3			4		5				

[1]Cutting Attachment. [2]Applies to M4 only. [3]Preheat: 4 flames. [4]Preheat: 6 flames. [5]Also 00 with 3 flame preheat. [6]Applies to 280 only. [7]Tip size 11 drill size 10; tip 12 drill 2; tip 13 drill 1/4" and tip 14 drill L. [8]Remaining tips for C only. [9]Tip 12 drill size 15. [10]Tip next size larger is drill size 12.

SHOOT-A-LITE



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Ragle, J. M., Industries, Kansas City, Mo.
Randall Mfg. Co., North Kansas City, Mo.
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Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Thermacote Co., Los Angeles, Calif.
Victor Equipment Co., San Francisco, Calif.
Weldit, Inc., Detroit, Mich.

TORCH NOZZLES

(See: "Flame-Cutting Tips" and "Gas Welding Tips")

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Air Reduction Sales Co., New York, N. Y.
American Gas & Chemical Corp., Harrison, N. J.
American Oxygen Service Corp., Harrison, N. J.
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Kerotest Mfg. Co., Pittsburgh, Pa.
Liquid Carbonic Corp., Chicago, Ill.
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National Torch Tip Co., Pittsburgh, Pa.
National Welding Equip. Co., San Francisco, Calif.
Oxo Welding Equip. Co., Chicago, Ill.
Sight Feed Generator Co., The, West Alexandria, Ohio
Smith Welding Equip. Corp., Minneapolis, Minn.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Victor Equipment Co., San Francisco, Calif.
Wagner Mfg. Co., Inc., Jackson, Mo.
Weldit, Inc., Detroit, Mich.

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Cooper Alloy Foundry Co., The, Hillside, N. J.
Craftsweld Equip. Corp., Long Island City, N. Y.
Dockson Corp., Detroit, Mich.
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(See: "Gas Welding Torches")

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ARC EQUIPMENT

THIS category (which NWSA numbers from 300 to 399) includes welding power sources of all types, as well as accessories used in the arc processes—electrode holders, ground clamps, etc.

In 1955, this grouping represented a market second only to the gas-welding field. But if we were to exclude gases from the latter, the arc-welding equipment category would be the largest. Last year almost $43,000,000 was spent for machines alone, as opposed to $33,000,000 in 1954.

The NWSA has set up only seven sub-headings under this classification. They are:

310 Electric drive welders
320 Gas engine drive welders
330 Transformer welders
340 Rectifier welders
350 Special welders
380 Miscellaneous
390 Accessories

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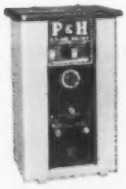

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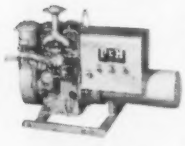

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Hobart Bros. Co., Troy, Ohio
International Fermont Mach. Co., Inc., Ramapo, N. Y.
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Precision Welder Mfg. Co., Chicago, Ill.
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Smith Welding Equip. Corp., Minneapolis, Minn.
Trindl Products, Ltd., Chicago, Ill.
Twentieth Century Mfg. Co., Minneapolis, Minn.
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Welding Apparatus Co., Chicago, Ill.
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(See: "Welder Filters")

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(See "Gougers")

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ARC WELDERS, A-C

(See: "A-C Arc Welders")

ARC WELDERS, Automatic

(See: "Automatic Arc Welders")

ARC WELDERS, D-C

(See: "D-C Arc Welders")

ARC WELDING VOLTAGE REGULATORS

(See: "Voltage Regulators, Arc")

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Arc Equipment is continued on page 27

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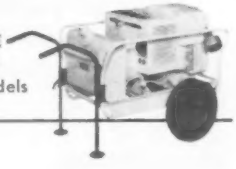

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Arc-Welding Cable Data

Table I—Arc-Welding Electrode and Ground Cables

National Rating of Welder in Amperes	Recommended Cond Size AWG*	Number of Strands	Stranding	Diameter of Conductor Inches	Over-all Diameter Inches	Resistance Ohms/1000 ft. †	Impedance Ohms/1000 ft. ‡
100	4	1,050	7/3/50/.0063	.30	.510	.318	.321
150	2	1,680	7/3/80/.0063	.38	.575	.196	.200
200	2	1,680	7/3/80/.0063	.38	.575	.196	.200
300	0	2,695	7/7/55/.0063	.46	.700	.124	.129
400	00	3,381	7/7/69/.0063	.48	.775	.095	.104
500	00	3,381	7/7/69/.0063	.48	.775	.095	.104
600	000	4,284	7/7/87/.0063	.57	.845	.078	.086

Table II—Portable Cable between Arc Welder and Power Source

A-c Arc Welders (Transformer Type with Single-Phase Primary) — Use Three-Conductor Cable With the Third Conductor as a Ground Wire							Motor Driven D-c Welders — With A-c Motor Drive — For 3-Phase Motors Use 4-Conductor Cable With the Fourth Conductor as a Ground Wire					Motor Driven D-c Welders — With D-c Motor Drive — Use 3-Conductor Cable with the Third Conductor as a Ground Wire				
Nom Rating of Welder in Amp	Rated Primary Load Amp	Primary Volts	Recom Cond Size*	Number of Strands	Diam of Bare Cond	Over-all Diam	Motor Rating Volts	Recom Cond Size*	Number of Strands	Diam of Bare Cond	Over-all Diam	Motor Rating Volts	Recom Cond Size*	Number of Strands	Diam of Bare Cond	Over-all Diam
100	62	110	4	49	.260	1.17	...	...	...	...	...	...	...	...	...	...
	31	220	8	49	.160	.93	...	...	...	...	...	...	...	...	...	...
	16	440	12	49	.100	.61	...	...	...	...	...	...	...	...	...	...
150	...	...	...	...	...	...	220	10	49	.130	.72	115	2	133	.340	1.34
	...	...	...	...	...	...	440	14	41	.080	.60	230	6	49	.230	1.02
200	72	220	2	133	.340	1.34	220	8	49	.160	.97	115	0	133	.430	1.73
	36	440	8	49	.160	.93	440	12	49	.100	.66	230	4	49	.260	1.17
	...	...	...	...	...	...	550	14	41	.080	.60	550	10	49	.130	.66
§200	50	220	6	49	.205	1.02	...	...	...	...	...	...	...	...	...	...
	25	440	10	49	.130	.66	...	...	...	...	...	...	...	...	...	...
	20	550	12	49	.100	.61	...	...	...	...	...	...	...	...	...	...
300	77	220	2	133	.340	1.34	220	6	49	.205	1.07	115	000	259	.530	1.98
	39	440	8	49	.160	.93	440	10	49	.130	.72	230	2	133	.340	1.34
	31	550	8	49	.160	.93	550	10	49	.130	.72	550	8	49	.160	.93
400	...	...	...	...	...	...	220	4	49	.260	1.23	...	...	...	...	...
	...	...	...	...	...	...	440	8	49	.160	.97	230	1	133	.380	1.59
	...	...	...	...	...	...	550	10	49	.130	.72	550	6	49	.230	1.02
500	125	220	0	133	.430	1.73	...	...	...	...	...	...	...	...	...	...
	63	440	4	49	.260	1.17	...	...	...	...	...	...	...	...	...	...
	50	550	6	49	.205	1.02	...	...	...	...	...	...	...	...	...	...
600	...	...	...	...	...	...	220	2	133	.340	1.46	...	...	...	...	...
	...	...	...	...	...	...	440	6	49	.205	1.07	230	000	259	.530	1.98
	...	...	...	...	...	...	550	8	49	.160	.97	550	4	49	.260	1.19

*Recommendation of National Electric Code.
†At 60 C Copper Temperature.
‡Based on the assumption that the two leads (electrode and work cable) are taped together.
§(With capac).

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Ohio Carbon Co., The, Cleveland, Ohio
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Speer Carbon Co., St. Marys, Pa.
Stackpole Carbon Co., St. Marys, Pa.
Superior Carbon Products, Inc., Cleveland, Ohio

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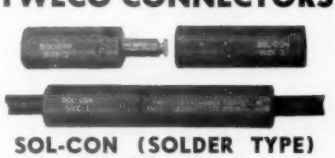
Ben-Nek Holder, Inc., Branford, Conn.
Burdett Oxygen Co., Cleveland, Ohio
Cam-Lok Div., Empire Prod., Inc., Cincinnati, Ohio
Chicago Tool & Engineering Co., Chicago, Ill.
Craftsweld Equip. Corp., Long Island City, N. Y.
Detroit Electrode Holder Mfg. Co., Detroit, Mich.
Fibre-Metal Products Co., Chester, Pa.
Har-Worth Mfg. Co., Newark, N. J.

TWECO CONNECTORS



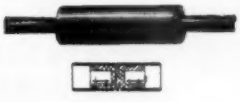
SOL-CON (SOLDER TYPE)
MEC-CON
(MECHANICAL TYPE)

Positive and efficient cable connection with quick detach and jump-in advantages.

Two sizes: No. 1 for cable sizes 4, 2 or 1. No. 2 for cable sizes 1/0 through 4/0.

TWECO PRODUCTS

TWECO PRODUCTS, INC.
1452 S. Mosley Wichita 1, Kansas



JACKSON
CABLE SPLICERS

Quality products, part of a group including Ground Clamps, Cable Connectors, Splicers and Lugs, all available in sizes No. 1, 2/0, and 4/0. Made by the makers of the popular quality line of Arc Welding Electrode Holders.

JACKSON PRODUCTS
WARREN, MICHIGAN

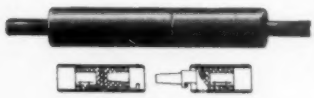
Jackson Products, Inc., Warren, Mich.
Lincoln Electric Co., The, Cleveland, Ohio
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Pyle-National Co., Chicago, Ill.
Sherman Mfg. Co., H. B., Battle Creek, Mich.
Tweco Products, Inc., Wichita, Kan.
Wagner Mfg. Co., Inc., Jackson, Mo.

CABLES, Inspection Equipment

(See: "Inspection Equipment, Cables")

CABLE SPLICERS

Anthony, F. M., Co., Piedmont, Calif.
Cam-Lok Div., Empire Prod., Inc., Cincinnati, Ohio
Industrial Air Prod. Co., Portland, Ore.
Jackson Products, Inc., Warren, Mich.
Lincoln Electric Co., The, Cleveland, Ohio
Liquid Carbonic Corp., Chicago, Ill.
Mine Safety Appliances Co., Pittsburgh, Pa.
Mueller Electric Co., Cleveland, Ohio
Sherman, H. B., Mfg. Co., Battle Creek, Mich.
Stevens, C. H., & Co., Inc., Cornwall Bridge, Conn.
Tweco Products, Inc., Wichita, Kan.
Velocity Power Tool Co., Pittsburgh, Pa.
Wagner Manufacturing Co., Inc., Jackson, Mo.



JACKSON
CABLE CONNECTORS

Quality products, part of a group including Ground Clamps, Cable Connectors, Splicers and Lugs, all available in sizes No. 1, 2/0, and 4/0. Made by the makers of the popular quality line of Arc Welding Electrode Holders.

JACKSON PRODUCTS
WARREN, MICHIGAN

TWECOLUGS
FOR WELDING AND POWER CABLE

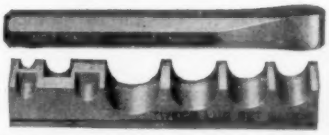
New copper solder type TWECOLUGS are especially designed for making cable connections; they have large diameter stud holes with ample wing nut clearance. 4 sizes for welding cables 6 through 4/0.4 sizes for power cables 14 through 4.

TWECO "LUG-SET" SPLICERS

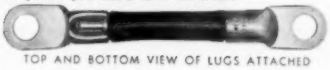
4 sizes for cables #6 through 4/0. Split rubber sleeves for good insulation with friction tape.

Use TWECO "Lug-Set" Splicers and rubber sleeves to splice broken or worn welding cable. Reel ends and short pieces can be quickly spliced into usable lengths.

TWECO "LUG-SET"



An eight-saddle back-up block and a special round-end punch for mechanically attaching Copper TWECOLUGS and "Lug-Set" Splicers. Two punch impacts the lug barrel for a quick connection with maximum strength and conductivity. All you need is a hammer.



TOP AND BOTTOM VIEW OF LUGS ATTACHED WITH TWECO "LUG-SET"

View of Splicer Attached with "Lug-Set"

Write for new TWECOLOG with complete TWECO line of arc welding cable accessories.

See Your Welding Supply Distributor

Tweco

TWECO PRODUCTS

PRODUCTS, INC. WICHITA KANSAS

CAPACITORS, Power Factor Correction

Aerovox Corp., New Bedford, Mass.
Air Reduction Sales Co., New York, N. Y.
Cornell-Dubilier Elec. Co., S. Plainfield, N. J.
Deutschman Corp., Canton, Mass.
Hobart Bros. Co., Troy, Ohio
Lincoln Electric Co., The, Cleveland, Ohio
Westinghouse Electric Corp., Pittsburgh, Pa.

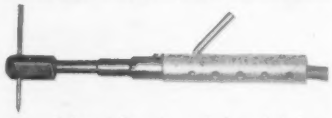
CARBON-ARC TORCHES

Air Reduction Sales Co., New York, N. Y.
Allen Electric and Equip. Co., Kalamazoo, Mich.
American Oxygen Service Corp., Harrison, N. J.
Arcair Co., Lancaster, Ohio
Borm Mfg. Co., Elgin, Ill.
Chicago Tool & Engineering Co., Chicago, Ill.
Craftsweld Equip. Corp., Long Island City, N. Y.
Electric Arc, Inc., Newark, N. J.
Ergolyte Mfg. Co., Philadelphia, Pa.
Fibre-Metal Products Corp., Skokie, Ill.
Forney Mfg. Co., Fort Collins, Colo.
Hammet Elec. Mfg. Co., Kansas City, Mo.
Harnischfeger Corp., Milwaukee, Wis.
Lincoln Electric Co., The, Cleveland, Ohio
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Mid-States Welder Mfg. Co., Chicago, Ill.
Miller Electric Mfg. Co., Inc., Appleton, Wis.
National Cylinder Gas Co., Chicago, Ill.
Patent Specialties, Inc., Miami, Fla.
Philips, C. E., & Co., Detroit, Mich.
Precision Welder Mfg. Co., Chicago, Ill.
Trindl Products, Ltd., Chicago, Ill.
Tweco Products, Inc., Wichita, Kan.
Twentieth Century Mfg. Co., Minneapolis, Minn.
Westinghouse Electric Corp., Pittsburgh, Pa.

CARBON ELECTRODE HOLDERS

Air Reduction Sales Co., New York, N. Y.
Albert & J. M. Anderson Mfg. Co., Boston, Mass.
Arcair Co., Bremerton, Wash.
Fibre-Metal Prod. Co., The, Chester, Pa.
Hobart Bros. Co., Troy, Ohio
Industrial Products Co., Philadelphia, Pa.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Precision Welder Mfg. Co., Chicago, Ill.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Tweco Products, Inc., Wichita, Kans.
Westinghouse Electric Corp., Pittsburgh, Pa.

CARBON ELECTRODE HOLDERS



Four lightweight, air cooled models for D. C. carbon arc welding. 150, 200, 300 and 500 ampere capacity.

CARBON RANGE 1/8" to 3/4"

TWECO PRODUCTS

Write for new No. 10 TWECOLOG Bulletin which pictures and describes complete TWECO Line of Arc Welding Cable Connections and Accessories.

TWECO PRODUCTS, INC.
1452 So. Mosley Wichita 1, Kans.

COMMUTATOR MAINTENANCE EQUIPMENT

Holub Industries, Inc., Sycamore, Ill.
Ideal Industries, Inc., Sycamore, Ill.
Ohio Carbon Co., The, Cleveland, Ohio

CONSTANT-POTENTIAL WELDERS

Air Reduction Sales Co., New York, N. Y.
General Electric Co., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Hobart Bros. Co., Troy, Ohio
Lincoln Electric Co., The, Cleveland, Ohio
Metal & Thermit Corp., Rahway, N. J.
Miller Electric Mfg. Co., Inc., Appleton, Wis.
National Cylinder Gas Co., Chicago, Ill.
Smith, A. O., Corp., Milwaukee, Wis.
Vickers Electric Div., St. Louis, Mo.
Westinghouse Electric Corp., Pittsburgh, Pa.

CONVERSION UNITS, A-C, Arc

Automatic Temperature Control Co. Inc., Philadelphia, Pa.
Ergolyte Mfg. Co., Philadelphia, Pa.
Greyhound AC Arc Welder Corp., Brooklyn, N. Y.
Hoffman, R. W. Co., Inc., Chicago, Ill.
Miller Electric Mfg. Co., Appleton, Wis.

For AC or DC

LINCOLN

Has The Right Welder To Cut The Cost Of Every Welding Job

"Idealarc" Both AC and DC welding current from the same welder. Capacities 300 to 500 amps.

"Shield-Arc" Motor driven DC welders. Capacities, 200 to 600 amps.

"Shield-Arc" Engine driven DC welders. Capacities, 200 to 600 amps.

"Lincwelder" AC & DC welders. Capacities, 180 to 250 amps.

"Lincolnweld" Automatic or semi-automatic for hidden arc welding.

"Inertarc" Top-quality inert gas shielded AC welding of aluminum, bronze and stainless steel.

Write for free descriptive bulletins.

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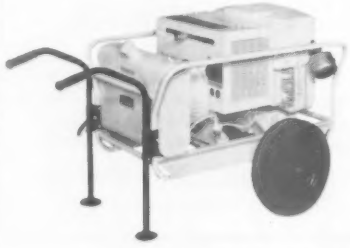
Dept. 713, Cleveland 17, Ohio

Sales Offices and Field Service Shops in All Principal Cities

LINCOLN

NEW

SUREWELD® 200 AMP. PORTABLE D-C WELDER



WITH 1500-WATT A-C POWER TAKE-OFF

Lightweight, compact. Has 12.8 hp air cooled engine. Goes everywhere operator can go. Welding range 35-250 amperes. Handles 1/16" to 5/16" electrodes, straight or reverse polarity. Convenient 1500-Watt, 60 cycle, 115-volt AC power take-off. Pays for itself quickly with savings. Write for literature or demonstration.

Branches and dealers from coast to coast

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NCG NATIONAL CYLINDER GAS COMPANY
840 N. Michigan Ave., Chicago 11, Illinois

CRATER ELIMINATORS, Arc

Air Reduction Sales Corp., New York, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
Miller Electric Mfg. Co., Inc., Appleton, Wis.
Mullenbach Div., Electric Machinery Mfg. Co., Los Angeles, Calif.
National Cylinder Gas Co., Chicago, Ill.
Ragle, J. M., Industries, Kansas City, Mo.
Strobel Corp., Carl, Los Angeles, Calif.
Westinghouse Electric Corp., Pittsburgh, Pa.

CRIMPING TOOLS

Aircraft-Marine Products, Inc., Harrisburg, Pa.
Anthony, F. M., Co., Piedmont, Calif.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Burndy Engineering Co., Inc., New York, N. Y.
Cam-Lok Div., Empire Prod., Inc., Cincinnati, Ohio
Pyramid Steel Co., Cleveland, Ohio
Ragle, J. M., Industries, Kansas City, Mo.
Sherman Mfg. Co., H. B., Battle Creek, Mich.
Tweco Products, Inc., Wichita, Kan.
Wagner Mfg. Co., Inc., Jackson, Mo.

CURRENT REGULATORS, Arc

Cutler-Hammer, Inc., Milwaukee, Wis.
Mullenbach Div., Electric Machinery Mfg. Co., Los Angeles, Calif.
Westinghouse Electric Corp., Pittsburgh, Pa.

D-C ARC WELDERS, M-G and Engine-drive

(See also "Constant-Potential Welders" or "Rectifier Arc Welders")

Air Reduction Sales Co., New York, N. Y.
American ELIN Corp., New York, N. Y.
Electric Arc, Inc., Newark, N. J.
General Electric Co., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Hobart Bros. Co., Troy, Ohio
Lincoln Electric Co., The, Cleveland, Ohio
Metal & Thermit Corp., Rahway, N. J.
Miller Electric Mfg. Co., Inc., Appleton, Wis.
National Cylinder Gas Co., Chicago, Ill.
Smith Corp., A. O., Milwaukee, Wis.
Westinghouse Electric Corp., Pittsburgh, Pa.

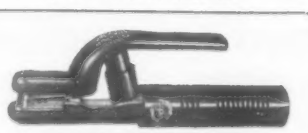
D-C WELDER CONTROLS

Air Reduction Sales Co., New York, N. Y.
Automatic Temperature Control Co., Inc., Philadelphia, Pa.
Clark Controller Co., The, Cleveland, Ohio
Cutler-Hammer, Inc., Milwaukee, Wis.
Electric Controller & Mfg. Co., The, Cleveland, Ohio
Foster Transformer Co., Cincinnati, Ohio
General Electric Co., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Hobart Bros. Co., Troy, Ohio
Lincoln Electric Co., The, Cleveland, Ohio
Miller Electric Mfg. Co., Inc., Appleton, Wis.
Mullenbach Div., Electric Machinery Mfg. Co., Los Angeles, Calif.
Square D. Co., Milwaukee, Wis.
Vickers Electric Div., St. Louis, Mo.
Westinghouse Electric Corp., Pittsburgh, Pa.

ELECTRODE HOLDERS

Ben-Nek Holder, Inc., East Haven, Conn.
Bernard Welding Equipment Co., Chicago, Ill.
Cam-Lok Div., Empire Prod., Inc., Cincinnati, Ohio
Craftsweld Equip. Corp., Long Island City, N. Y.
Duro Engineering Co., Hamden, Conn.
Eisler Engineering Co., Inc., Newark, N. J.
Erico Products, Inc., Cleveland, Ohio
Flood Safety Prod. Co., Chicago, Ill.
Jackson Products, Inc., Warren, Mich.
Lincoln Electric Co., The, Cleveland, Ohio

(Continued on page 31)



JACKSON ARC WELDING

ELECTRODE HOLDERS

"Featherlight" model A-W, shown here, is outstanding in popularity among the wide variety of holders available in both the light-weight and copper alloy types. Ask your nearest Jackson dealer or write to us.

JACKSON PRODUCTS
WARREN, MICHIGAN

you know, this miller AEA-200-L is quite a deal

The man's right of course, and here's why: As a welder, it provides a full 200 amperes of ac welding current . . . handles ac or ac-dc electrodes up to 3/16". As a power plant, the rotating field design generator — coupled to Onan CK engine — supplies 4500 watts of 110/220 current; or, 1000 watts of dc power while welding. Waterproof and light weight (435 lbs.), the AEA-200-L offers easy portability, all-weather operation and real versatility. Rubber-tired running gear and road trailer available. Model AEA-200, without auxiliary power, weighs 420 lbs. Larger engine driven units to 350 amperes with generator output of 10KW.

". . . if it's MILLER you know it's the finest . . ."

New

MILLER ARCWELD welding electrodes are worthy of the MILLER name and reputation. Ask your distributor for some . . . you'll like the job they do.

miller

ELECTRIC MANUFACTURING CO., INC.
APPLETON, WISCONSIN

Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal, P.Q.

Difficulties in Metal-Arc Welding

Difficulty	Possible Causes	Possible Corrections
Incomplete Penetration	1. Joint design faulty 2. Welding speed too rapid 3. Insufficient welding current 4. Too large an electrode size	1. Check root opening, root face dimension, included angle 2. Slow down welding speed 3. Increase welding current 4. Decrease electrode size
Poor Appearance	1. Current either too high or too low 2. Improper use of electrode 3. Faulty electrode	1. Adjust current values 2. Check welding procedure 3. Dry electrode to remove moisture; change electrode
Undercutting	1. Current too high 2. Arc length too long 3. Improper manipulation of the electrode 4. Welding speed too rapid	1. Use lower current 2. Shorten arc length 3. Change angle of holding electrode so that arc force will be used to fill undercut 4. Slow down the welding speed
Excessive Spatter	1. Current too high 2. Arc length too long 3. Excessive arc blow 4. Faulty electrode	1. Use lower current 2. Shorten the arc length 3. See remedies for "arc blow" 4. Replace electrode
Arc Blow	1. Magnetic field, created when using d-c, causes the arc to wander	1. Use a-c machine 2. Counteract blow with angle of electrode 3. Rearrange or split ground clamp 4. Replace magnetic work bench 5. Use brass or copper back-up bar
Pinholes	1. Foreign matter in joint	1. Remove rust, scale and other foreign matter from edges
Slag in Weld	1. Joint design: sharp V-shaped recess 2. High viscosity of molten metal, rapid chilling, too low a weld temperature	1. Proper preparation of groove before each bead is deposited. Avoid contours that are difficult to penetrate with arc 2. Use preheat and obtain higher heat input per unit
Porous Welds	1. Welding speed too rapid 2. Current too low 3. High sulphur or other impurities 4. Faulty electrodes	1. Slow down welding speed 2. Increase current values 3. Use low-hydrogen electrodes 4. Dry electrodes to remove moisture; replace electrodes
Cracked Welds	1. Faulty electrode 2. Rigidity of joint, stressed weld 3. Shape of bead 4. Craters 5. Fast cooling rate	1. Use low-hydrogen electrodes 2. Redesign joint; use preheat and postheat; weave 3. Use slower travel or faster freezing electrode to give a more convex bead 4. Back step to fill craters 5. Preheat and/or postheat
Distortion and Warping	1. Improper design of weld 2. Overheating 3. Welding speed too slow 4. Improper welding sequence 5. Faulty clamping	1. Redesign to allow for expansion and contraction forces 2. Use lower current and more efficient chill bars 3. Increase the speed of the arc 4. Improve welding sequence 5. Clamp properly to chill bar
Brittle Welds	1. Incorrect electrode 2. Incorrect heat treatment 3. Air-hardening deposit 4. Base metal pick-up	1. Use low-hydrogen or austenitic electrode 2. Use proper preheat and postheat cycles 3. Use austenitic electrodes 4. Shallow penetration by directing arc on weld puddle

ELECTRODE HOLDERS

Marquette Mfg. Co., Inc., Minneapolis, Minn.
Precision Welder Mfg. Co., Chicago, Ill.
Tweco Products, Inc., Wichita, Kan.
U. S. Electric Welder Corp., Toledo, Ohio
Wagner Mfg. Co., Inc., Jackson, Missouri
Wells Inc., Martin, Los Angeles, Cal.

ELECTRODE HOLDERS, Arc-Oxygen

Arcos Corp., Philadelphia, Pa.
Liquid Carbonic Corp., Chicago, Ill.
Tipaloy, Inc., Detroit, Mich.
Universal Welder Corp., Cleveland, Ohio
Weldaloy Products Co., Detroit, Mich.
Welding Machines Mfg. Co., Detroit, Mich.

ELECTRODE HOLDERS, Atomic-Hydrogen

Electric Arc, Inc., Newark, N. J.
General Electric Co., York, Pa.

• BERNARD *Shortstub* •

100% INSULATED
ELECTRODE HOLDERS

Developed to reduce Electrode Stub Waste by depositing the total Fluxed Length of the Electrode. Two sizes, 400 Amp. and 600 Amp.
WRITE FOR 16 PAGE BOOKLET SS-3
10232 Avenue N **Bernard Welding Equipment Co.** Chicago 17, Ill.

TWECOTONG
ELECTRODE HOLDERS

TWECOTONG is fully insulated with heavy duty "Super-Mel" glass cloth replaceable insulation. Made in 200, 250, 300, 350, 400 and 500 ampere sizes. Simple design—strong, efficient copper alloy construction. Parts replaceable to cut repair costs.

Write for No. 10 TWECOLOG with complete TWECO Line of Cable Connections and Accessories.

TWECO PRODUCTS

TWECO PRODUCTS, INC.
1452 S. Mosley Wichita 1, Kansas

LINCOLN Low-Priced ELECTRODE HOLDERS
for every welding service

Rugged Construction
Light in Weight
Self Ventilated
Insulated

Write for free Bulletin 467

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Sales Offices and Field Service Shops in All Principal Cities.

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Albert & J. M. Anderson Mfg. Co., S. Boston, Mass.
Cam-Lok Div., Empire Prod., Inc., Cincinnati, Ohio
Chicago Tool & Engineering Co., Chicago, Ill.
Erico Products, Inc., Cleveland, Ohio
Flood Safety Prod. Co., Chicago, Ill.
Forney Mfg. Co., Fort Collins, Colo.
Har-Worth Mfg. Co., Newark, N. J.
Jackson Products, Inc., Warren, Mich.
Lincoln Electric Co., The, Cleveland, Ohio
Mueller Elec. Co., Cleveland, Ohio
Sherman, H. B., Mfg. Co., Battle Creek, Mich.
Tweco Products, Inc., Wichita, Kans.
Universal Welder Corp., Cleveland, Ohio
Victor Equipment Co., San Francisco, Calif.
Wagner, H. J., Products, Inc., Jackson, Mo.
Wagner Mfg. Co., Inc., Jackson, Mo.
Will-Weld Mfg. Co., Omaha, Nebraska

HIGH FREQUENCY UNITS

(See: "Conversion Units, A-C Arc")

ENGINES, Air Cooled

International Fermont Mach. Co., Inc., Ramapo, N. Y.
Kohler Corp., Kohler, Wis.
Lincoln Electric Co., The, Cleveland, Ohio
Onan, D. W., & Sons, Inc., Minneapolis, Minn.
Wisconsin Motor Corp., Milwaukee, Wis.

GOUGERS, Carbon Arc

Arcair Co., Lancaster, Ohio
Hobart Bros. Co., Troy, Ohio

TWECO GROUND CLAMPS

QUICK ON — QUICK OFF
"They bite like a Bulldog!"

TWECO Ground Clamps step up welding efficiency. Available through your welding supply distributor in Midget 125 amp., CUB 200 amp., Jr. 300 amp. and Sr. 500 amp. sizes.

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1452 S. Mosley Wichita 1, Kans.

JACKSON
GROUND CLAMPS

Quality products, part of a group including Ground Clamps, Cable Connectors, Splicers and Lugs, all available in sizes No. 1, 2/0, and 4/0. Made by the makers of the popular quality line of Arc Welding Electrode Holders.

JACKSON PRODUCTS
WARREN, MICHIGAN

Arcair ®
TORCH

Gouges, Grooves, Cuts and Bevels all metals at lower cost! Write for details TODAY.

ARCAIR COMPANY
427 S. Mt. Pleasant St., Lancaster, O.

GOVERNORS, Gas Engine

Electric Arc, Inc., Newark, N. J.
Hobart Bros. Co., Troy, Ohio
Hoof Products Co., Chicago, Ill.
Lincoln Electric Co., The, Cleveland, Ohio
Pierce Governor Co., Inc., The, Anderson, Ind.

What a Bite! (65 lbs.)

Mueller #33-C
"BIG BRUTE"
GROUND CLAMP

● 65 LB. BITE on any object
300 AMP. CAPACITY. Higher for short periods.
● SOLID COPPER (Insulator available).
The standard ground clamp —everywhere!

Send for useful catalog No. CC594

SMALLER, SOLID COPPER CLAMPS. No. 11-C....200 Amps (light ground clamp). No. 24-C....50 Amps. No. 21-C....100 Amps. (For current pickup on primary side)

Mueller Electric Co.
1594CC East 31st Street, Cleveland 14, Ohio

6863-CE

IMPROVE WELDING QUALITY WITH THE **TONG TEST**

AC-DC
AMMETER

Now you can measure actual AC or DC welding currents without losing valuable production time. The Columbia TONG TEST is simply clamped around the electrode cable. Instantly you get an accurate ampere reading to control and maintain welding quality. Interchangeable ranges available up to 1000 amperes.

Eliminate defects . . . increase production . . . maintain valuable equipment with the low-cost Tong Test Ammeter. Write today for 8-page Catalog WE-400.

Only Tong Test Measures Both AC and DC

COLUMBIA

COLUMBIA ELECTRIC MFG. CO.
4551 Hamilton Avenue • Cleveland 14, Ohio

INSPECTION EQUIPMENT, Cables

Dillon, W. C. & Co., Inc., Van Nuys, Calif.
Hazard Insulated Wire Works, Wilkes-Barre, Pa.
Zucker, Myron Eng. Co., Detroit, Mich.

INSTRUMENTS, Current Measuring, A-C & D-C

Automatic Temperature Control Co., Inc., Philadelphia, Pa.
Brush Development Co., The, Cleveland, Ohio
Columbia Electric Mfg. Co., Cleveland, Ohio
General Electric Co., Schenectady, N. Y.
Weltronic Co., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.
Weston Electric Instrument Corp., Newark, N. J.

MACHINES, Welding

(See various welder classifications)

MAGNETIC GROUNDS

Magnetrode Corp., Kansas City, Mo.
Scott Mfg. Co., Kansas City, Mo.
Stearn Magnetic, Inc., Milwaukee, Wis.

RECTIFIER ARC WELDERS

Air Reduction Sales Co., New York, N. Y.
General Electric Co., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Hobart Bros. Co., Troy, Ohio
International Fermont Mach. Co., Inc., Ramapo, N. Y.
Lincoln Electric Co., The, Cleveland, Ohio
Metal & Thermit Corp., Rahway, N. J.
Mid-States Welder Mfg. Co., Chicago, Ill.
Miller Electric Mfg. Co., Inc., Appleton, Wis.
National Cylinder Gas Co., Chicago, Ill.
Smith, A. O., Corp., Milwaukee, Wis.
Vickers Electric Div., St. Louis, Mo.
Westinghouse Electric Corp., Pittsburgh, Pa.

RHEOSTATS

Air Reduction Sales Co., New York, N. Y.
Clark Controller Co., The, Cleveland, Ohio
Cutler-Hammer, Inc., Milwaukee, Wis.
General Electric Co., Schenectady, N. Y.
Guyan Machine Co., Logan, W. Va.
Lincoln Electric Co., The, Cleveland, Ohio
Ohmite Manufacturing Co., Skokie, Ill.
Victor Equipment Co., San Francisco, Calif.
Vulcan Electric Co., Danvers, Mass.
Wilson Welder & Metals, Inc., New York, N. Y.

SELENIUM RECTIFIERS

Air Reduction Sales Co., New York, N. Y.
Bogue Electric Mfg. Co., Paterson, N. J.
Federal Telephone & Radio Corp., Clifton, N. J.
General Electric Co., Schenectady, N. Y.
International Rectifier Corp., El Segundo, Calif.
Lincoln Electric Co., The, Cleveland, Ohio
Miller Electric Mfg. Co., Inc., Appleton, Wis.
Vickers Electric Div., St. Louis, Mo.
Westinghouse Electric Corp., Pittsburgh, Pa.

SELF-PROPELLED WELDER

Hebard, W. F., & Co., Chicago, Ill.
Hobart Bros. Co., Troy, Ohio
Parsons, A. J., Washington, Pa.
Schramm, Inc., West Chester, Pa.

SOLDERING GUNS

Eisler Engineering Co., Inc., Newark, N. J.
Velocity Power Tool Co., Pittsburgh, Pa.
Weller Electric Corp., Easton, Pa.

SPATTER PREVENTIVES

Acme White Lead & Color Works, Detroit, Mich.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Optical Co., Southbridge, Mass.
American Welding Alloys Corp., Brooklyn, N. Y.
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Eutectic Welding Alloys Corp., Flushing, N. Y.
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Hobart Bros. Co., Troy, Ohio
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Klem Chemicals, Inc., Dearborn, Mich.
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Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
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Smith, G. W., & Sons, Inc., Dayton, Ohio
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Thompson & Co., Oakmont, Pa.
Universal Welder Corp., Cleveland, Ohio
Victor Equipment Co., San Francisco, Calif.
Wallace Optical Co., Detroit, Mich.
Wayne Chemical Products Co., Detroit, Mich.
Welding Alloy Mfg. Co., Newark, N. J.
Welsh Manufacturing Co., Providence, R. I.
Wolfe-Kote Co., Inc., Sheboygan, Wis.
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KSM Products, Inc., Merchantville, N. J.
Nelson Stud Welding Div. of Gregory Industries, Lorain, Ohio

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Graham Manufacturing Corp., Ferndale, Mich.
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TORCHES, Arc

(See: Carbon Arc Torches")

TORCHES, Carbon-Arc-Air, Gouging and Cutting

(See: "Gougers")

TORCHES, Rock Piercing, Cutting

Eutectic Welding Alloys Corp., Flushing, N. Y.

TRANSFORMERS, Arc Welding

(See: "A-C Arc Welders")

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Bastian-Blessing Co., The, Chicago, Ill.
Chicago Tool and Engineering Co., Chicago, Ill.
Craftsweld Equip. Corp., Long Island City, N. Y.
National Cylinder Gas Co., Chicago, Ill.
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Glenn Co., Oakland, Calif.
Glenn-Roberts Co., Oakland, Calif.
Gulow Corp., New York, N. Y.
Mullenbach Electrical Mfg. Co., Los Angeles, Calif.
Raytheon Mfg. Corp., Waltham, Mass.
Westinghouse Electric Corp., Pittsburgh, Pa.

WELDERS, Arc

(See: "A-C Arc Welders," "D-C Arc Welders," and the various welder categories)

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Dockson Corp., Detroit, Mich.

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Erico Products, Inc., Cleveland, Ohio
Fibre-Metal Prod. Co., The, Chester, Pa.
Jackson Products, Inc., Warren, Mich.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Lincoln Electric Co., The, Cleveland, Ohio
Liquid Carbonic Corp., The, Chicago, Ill.
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Morris, Wheeler & Co., Inc., Philadelphia, Pa.
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Precision Welder Mfg. Co., Chicago, Ill.
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Dalweld Co., Mt. Vernon, N. Y.
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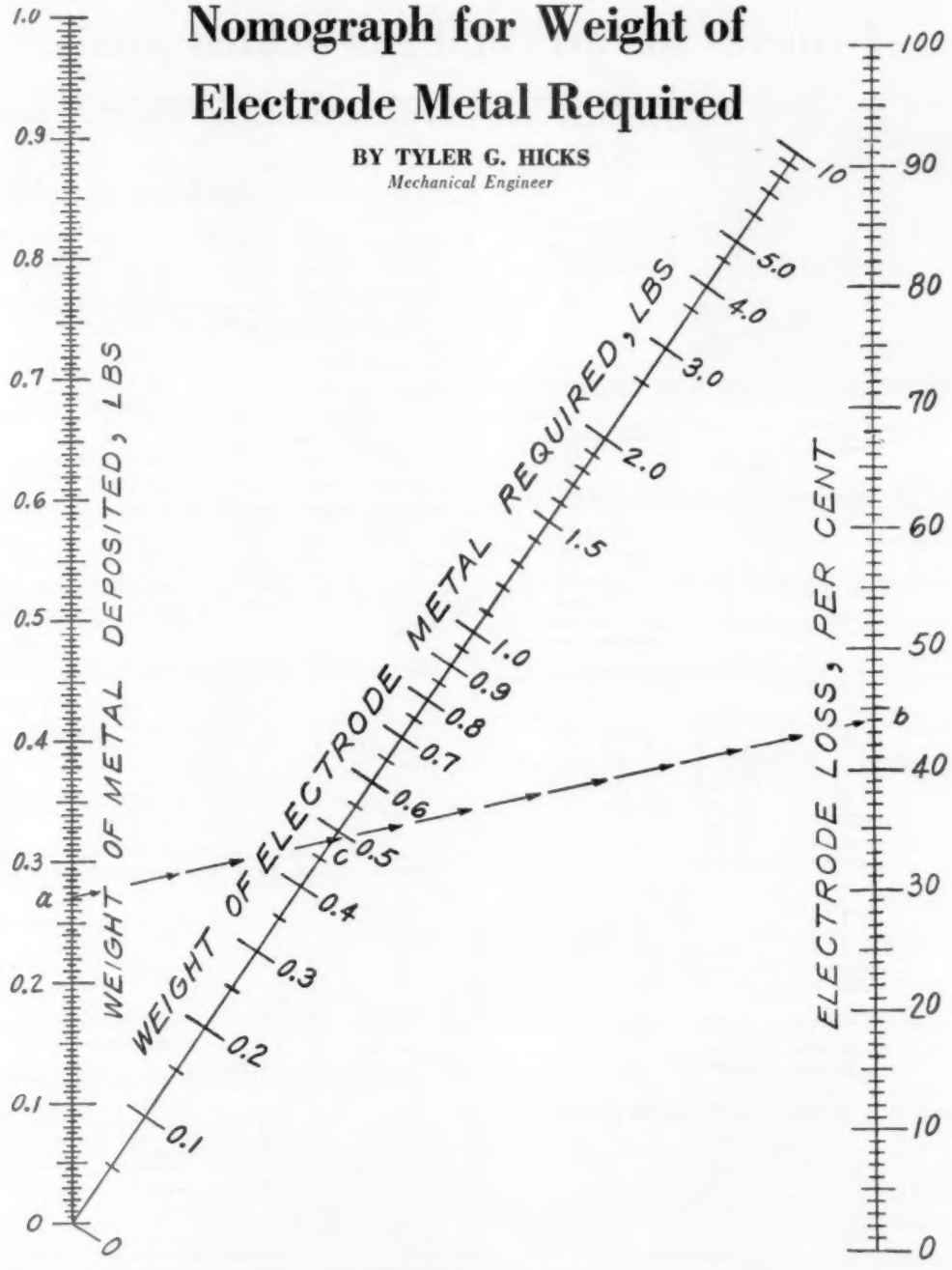
Hazard Insulated Wire Works, Div. of Okonite Co., Wilkes-Barre, Pa.
Lincoln Electric Co., The, Cleveland, Ohio
National Cylinder Gas Co., Chicago, Ill.
National Electric Prod. Corp., Pittsburgh, Pa.
Okonite Co., Passaic, N. J.
Phelps Dodge Copper Products Corp., New York, N. Y.
Plastic Wire & Cable Corp., The, Jewitt City, Conn.
Precision Welder Mfg. Co., Chicago, Ill.
Roebling's Son Co., John A., Trenton, N. J.
Rome Cable Corp., Rome, N. Y.

(Continued on page 35)

Nomograph for Weight of Electrode Metal Required

BY TYLER G. HICKS
Mechanical Engineer



THE ACCOMPANYING chart gives quick estimates of the weight of electrode metal required for a given joint. It is based on the equation:

$$W = \frac{\text{weight of metal deposited, lb}}{1 - \text{electrode loss}}$$

where

W = electrode weight required, lb

Example: An angle joint welded with a ⅜-in. coated electrode requires 0.272 lb of metal per foot of length. What weight of electrode is needed per foot if electrode loss is 44%?

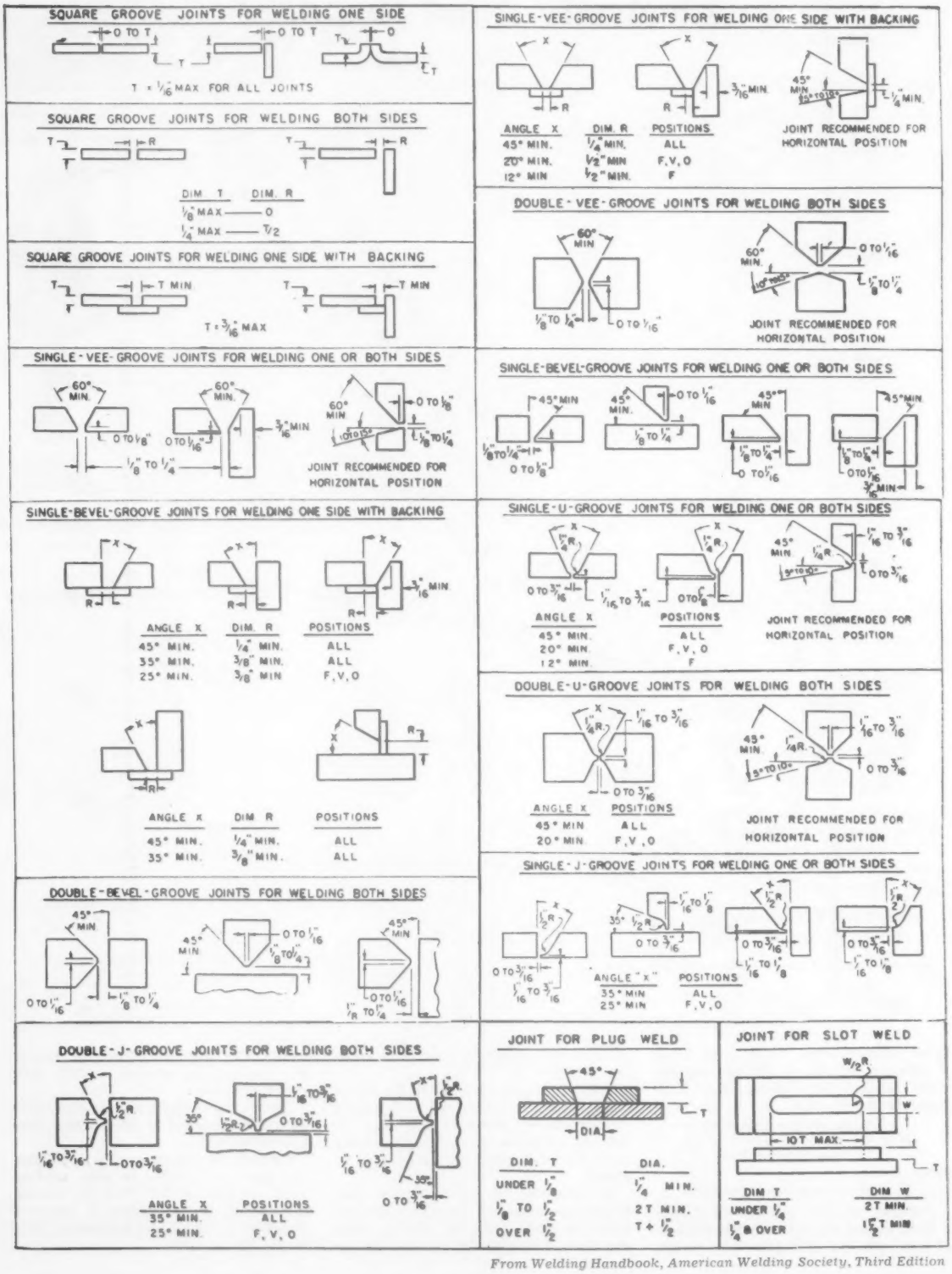
Solution: Enter the chart on the left at 0.272 lb of metal deposited and draw a straight line *ab* across to 44% electrode loss. At the intersection c with the sloping scale, read 0.49 lb of electrode metal required.

In estimating the total electrode loss, include the scrap end, spatter and coating losses. If specific data are lacking, scrap end loss can be assumed as 17%; spatter loss at 13% with bare electrodes; spatter and coating loss together as 27% with coated electrodes.

The weight of metal deposited includes the volume required to fill the joint plus reinforcement.

Although the equation used in plotting this chart is available in most welding texts, one McGraw-Hill Book Co. volume in which it can be checked is *Standard Handbook for Electrical Engineers*, 1949, Section 18, par. 219.

Grooves for arc- and gas-welded joints



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(Continued from page 32)

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Plastic Wire & Cable Corp., The, Jewitt City, Conn.
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Simplex Wire & Cable Co., Cambridge, Mass.
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AUTOMATIC EQUIPMENT

AUTOMATIC equipment is classified between the numbers 400-499. Last year, the NWSA tab-index comprised only two sub-headings, but this year, the 460 (Positioners) listing has been added. Of course, as last year, the editors of WELDING ENGINEER have handled all items alphabetically and in more detail than the following three listings:

460 Positioners
480 Miscellaneous
490 Accessories

In this department you will find all equipment for open-arc, submerged-arc and carbon-arc automatic welding; automatic Tig and Mig welding operations using argon, helium or carbon dioxide; and jigs, fixtures and other specialized units for automated welding.

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Lincoln Electric Co., The, Cleveland, Ohio
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(Turn to page 36)

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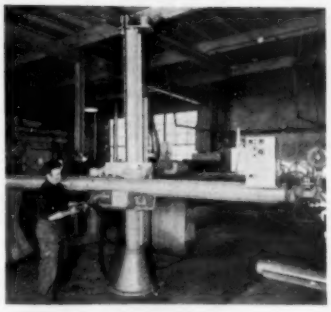

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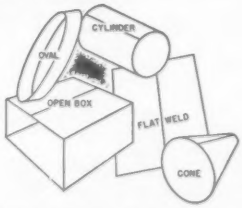

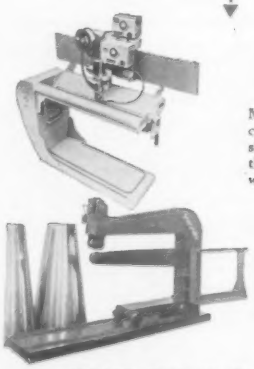

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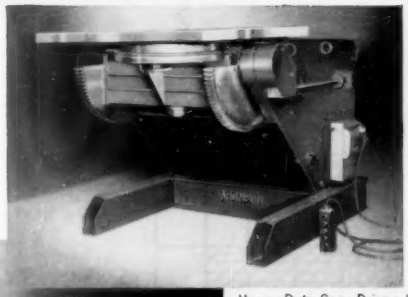

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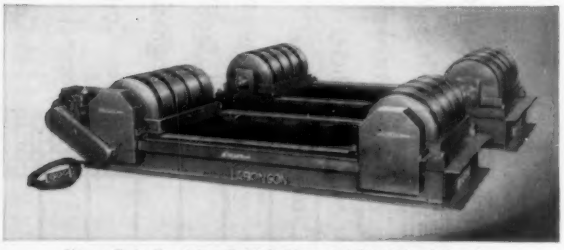

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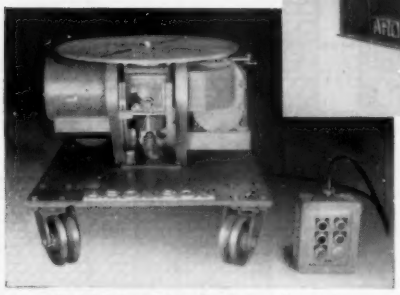

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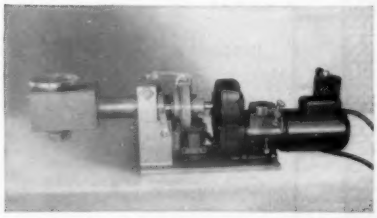

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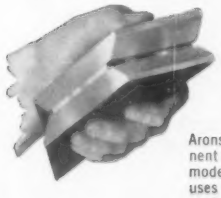

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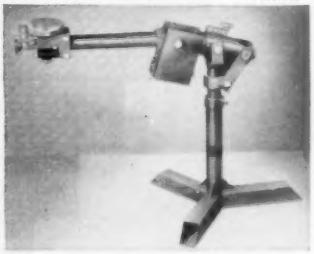

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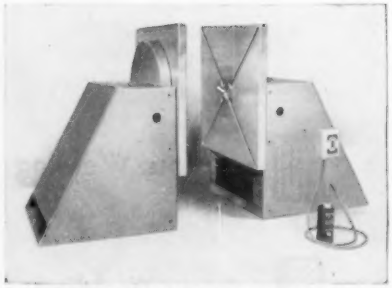

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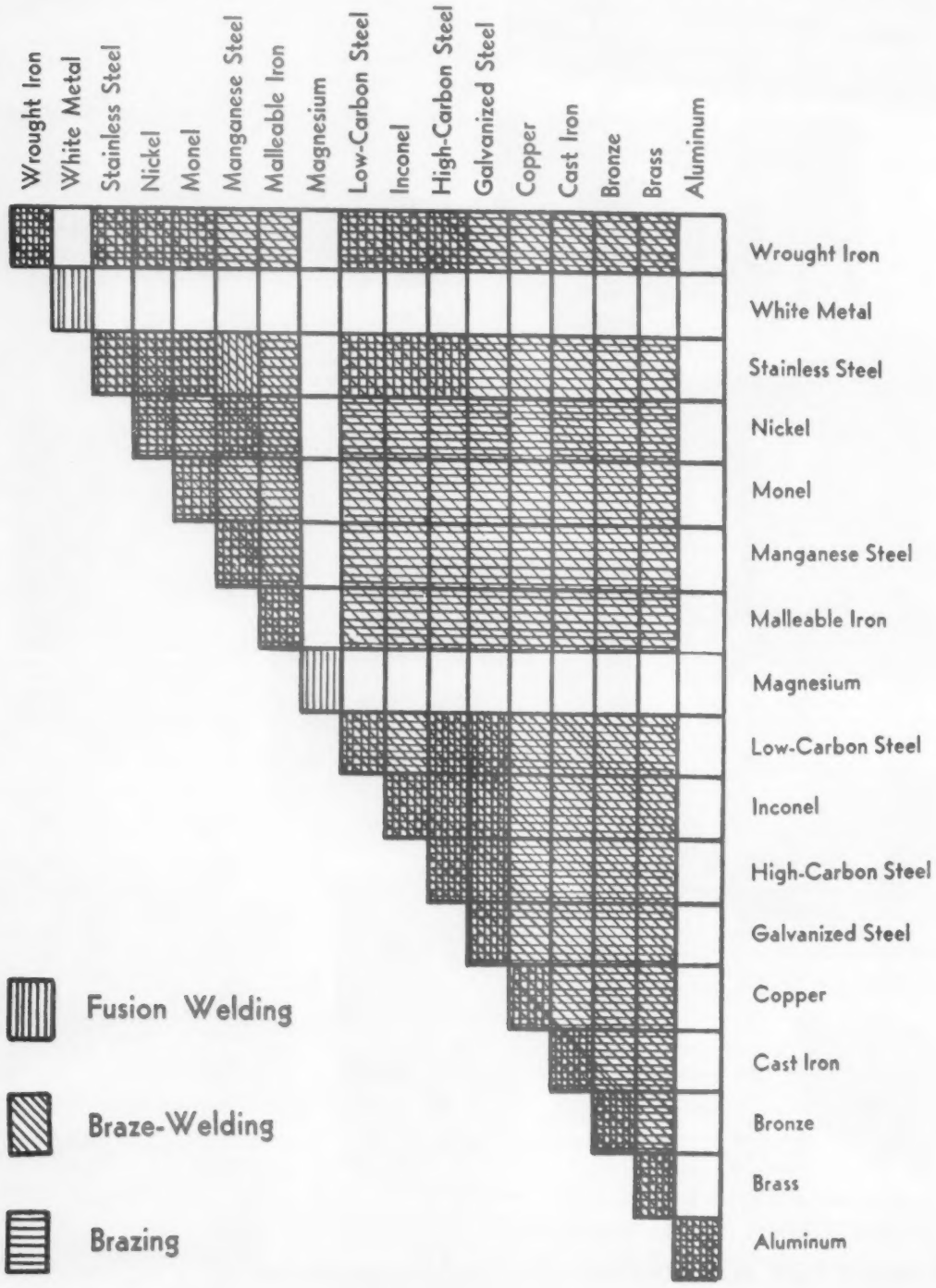
Jiffy Joining Chart

GAS-WELDING processes you may select in order to join a given material to a similar or dissimilar metal. As an example, take malleable iron. You can fusion weld it only to itself, but you can join it to everything except aluminum, magnesium, or white metal by using either brazing or braze welding. Aluminum, as another example, can be joined only to aluminum, but either fusion welding, braze-welding or brazing may be employed.



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Lincoln Electric Co., The, Cleveland, Ohio
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Victor Equipment Co., San Francisco, Calif.
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HEADS, Automatic Arc

(See: "Automatic Welding Heads")

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Peck, Cecil C., Co., Cleveland, Ohio
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Johnson Mach. Works, Eau Claire, Wis.
Morton Mfg. Co., Muskegon Heights, Mich.
Pandjiris Weldment Co., St. Louis, Mo.
Peck, Cecil C., Co., Cleveland, Ohio
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1956 Fact File Issue

INERT-GAS EQUIPMENT

INERT-GAS processes are finding more applications in industry as the months go by. Now, in addition, the practically-inert carbon dioxide has brought forth more new methods of joining not only the light non-ferrous metals but also mild steel.

In this grouping, the Fact File agrees with the NWSA index only partially. For the latter includes automatic inert-gas equipment, while the Fact File reserves *all* automatic equipment for the 400 category preceding this one.

The sub-headings of the Tab-Index System for this group are:

510 Automatic inert equipment
520 Manual inert equipment
580 Miscellaneous
590 Accessories

Fact File listings of inert equipment are alphabetical.

ARC WELDERS, Inert-Gas Shielded

(See: "Inert-Gas Shield Arc Welders")

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FILLER METALS and FLUXES

Three separate sub-classifications comprise this grouping of filler metals and fluxes—one for those used in the arc processes; one for the gas processes; and a miscellaneous group for the hardening compounds and electrode-processing equipment.

In 1955, filler metals combined to share a large portion of the $700,000,000 welding market. More than $130,000,000 was spent on electrode and rods.

The NWSA index does not break down this classification into the three sub-classes noted, but has the following sub-headings only:

610 Electrodes
620 Manual welding wire
630 Automatic welding wire
640 Metallizing wire
650 Brazing alloys
660 Solders and babbitts
680 Miscellaneous
690 Fluxes

Arc Process

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Aluminum Wire Prods. Co., Inc., Glastonbury, Conn.
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Arcos Corp., Philadelphia, Pa.
Champion Rivet Co., Cleveland, Ohio
Eutectic Welding Alloys Corp., Flushing, N. Y.
Lincoln Electric Co., The, Cleveland, Ohio
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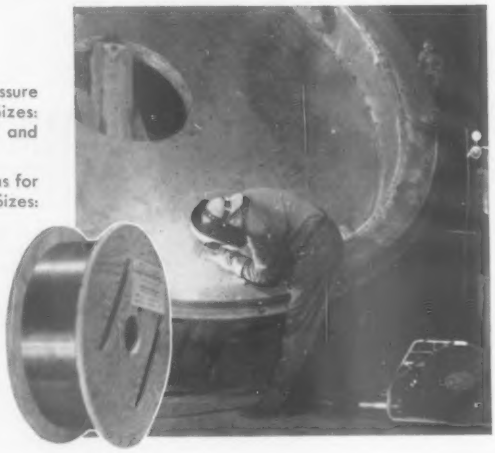

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(See: "Powder-Metal Electrodes")

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ELECTRODE KITS

(See: "Arc Electrode Kits")

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TRADE NAMES* OF ELECTRODES AND COMPARABLE AWS-ASTM DESIGNATIONS

Designation	E-4510	E-6010	E-6011	E-6012	E-6013	E-6014†	E-6016	E-6020	E-6024	E-6027	E-7010	E-7020
Weld positions	V, F, OH, H	F, V, OH, H	F, V, OH, H	F, V, OH, H	F, V, OH, H	F, V, OH, H	F, V, OH, H	H-Fillet, F	H-Fillet, F	H-Fillet, F	V, F, OH, H	H-Fillet, F
General Description	Wire—coating applied before drawing	Heavy coated D-C pos.	Heavy coated A-C or D-C	Heavy coated D-C neg. or A-C	Heavy coated A-C	Iron Powder A-C or D-C	Low-hydrogen D-C pos. or A-C	H. coated A-C or neg. for fillets, A-C or pos. for flat	Iron Powder A-C or D-C	Iron Powder A-C or D-C for flat, A-C or neg. for fillets	Heavy coated D-C pos. only	H. coated A-C or neg. for fillets, A-C or pos. for flat
MANUFACTURER												
Air Reduction[1]	41 or 63	78E	230	323 or 387	90 or 90A	Easyarc 716	312	306 or 315	Easyarc 12		93	94
Champion	Sulcoat	Blue Devil	Bluedac	Gray Devil Gray Devil 2 Gray Devil H.P.	Graydac Tan Devil	Speedemon 14	Hy-Lo Speedemon 716	Black Devil	Speedemon 12		Blue Devil 85	Black Devil 75
General Electric	Type F Type L	W-610A W-610B	611A	W-612A W-612B W-612C W-612D	W-613A		616A	W-620A W-620B W-620C W-620D	Strikeasy 1		W-710A	W-720A
Harnischfeger	Washcote	AP or APV	AC-1	PF, PFA or WE-8	AC-3 or SM	DH-6	170 LA DH-170	DH-2 or DH-3	DH-5		CM-50	CM-50-1
Hobart	Sulcoat	10	335	77 or 12	447 or 313	Rocket 14	Rocket 716	111	Rocket 24	Rocket 27	885	111-HT
Lincoln	Stable-Arc	Fleetweld 5 Lightweld Fleetweld 5-P	Fleetweld 35 or 180	Fleetweld 7 Fleetweld 72	Fleetweld 37 or 47 Planeweld 2	Improved 47	Shieldarc LH-70	Fleetweld 11	Jetweld 1 Selfweld	Jetweld 2	Shieldarc 85 or 85-P	Jetweld 2HT
Marquette	101	105	130 or 140	120	140, 151 or 6013			115	Marq-Rod 12			
McKay	21	15 or 15-D	11	17 or 116	24		Pluralloy 70AC	16	Comet Arc			
Metal and Thermit[2]	Sulcoat	Type R	Type A	Genex Genex M Genex C Genex D	Type U or Alternex		Type HTS	Type FHP or Type D	Speedex	Speedex LH	Molex	Type DM
National Cylinder Gas	Sureweld 30S	Sureweld B or BP	Sureweld CB	Sureweld N, G or NM	Sureweld C, CN or CE		7016	Sureweld FD	Sureweld 24	Sureweld 27	Sureweld MLY-50	Sureweld MLY-A
Reid-Avery[3]	D or Blue Label	7	11	8	13	7016	6016		6024	6027	74	64
Shober Sales		32	33	34	35			66				
A. O. Smith		SW 10	SW 14	SW 12 or 17	SW 15 or 16	SW 46	SW 65	SW 35	SW 44	SW 45	SW 75 or 80	SW 76 or 78
Westinghouse	18 Sulcoat	AP or XL-610	ACP-611	FP-612 or FP-2-612	SW-613 or SW-2-613 or SW-3-613		LoH-2-616	DH-620	Zip 24	Zip 27	XL-710	DH-720

*Trade name or Type No. is usually prefixed by company name.

†Not as yet a recognized standard by American Welding Society.

V = vertical, F = flat, OH = overhead, H = horizontal, H-Fillet = horizontal fillet. [1]Airco prefix. [2]Murex. [3]Raco prefix.

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General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
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Northeast Metals Co., Philadelphia, Pa.
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Smith, A. O., Corp., Milwaukee, Wis.
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Harnischfeger Corp., Milwaukee, Wis.
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MacDonald Co., Inc., Reno, Nev.
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Mir-O-Cal Alloy Co., Inc., Los Angeles, Calif.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Resisto-Loy Co., Grand Rapids, Mich.
Sight Feed Generator Co., West Alexandria, Ohio
Stoody Co., Whittier, Calif.
Stulz-Sickles Co., Newark, N. J.
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Crucible Steel Co. of America, Pittsburgh, Pa.
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General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
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McKay Co., Pittsburgh, Pa.
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Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
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Crucible Steel Co. of America, Pittsburgh, Pa.
Drawalloy Corp., York, Pa.
Haynes Stellite Co., Kokomo, Ind.
Lincoln Electric Co., The, Cleveland, Ohio
McKay Co., The, Pittsburgh, Pa.
Metal & Thermit Corp., Rahway, N. J.
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Crucible Steel Co. of America, Pittsburgh, Pa.
Eutectic Welding Alloys Corp., Flushing, N. Y.
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Lincoln Electric Co., The, Cleveland, Ohio
Marquette Mfg. Co., Minneapolis, Minn.
Maurath, Inc., Cleveland, Ohio
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Eutectic Welding Alloys Corp., Flushing, N. Y.
Haynes Stellite Co., Kokomo, Ind.
Industrial Overlay Metals, Eaton, Ohio
MacDonald Co., Inc., Reno, Nev.
Mir-O-Col Alloy Co., Inc., Los Angeles, Calif.
Purnell Alloy Co., Angleton, Texas
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(See: "Brazing Alloys")

ALLOYS, Hardfacing

(See "Hardfacing Electrodes" or "Hardfacing Welding Rods")

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(See: "Brazing Alloys")

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Craftsweld Equip. Corp., Long Island City, N. Y.
Division Lead Co., Summit, Ill.
Dow Chemical Corp., Midland, Mich.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Flux-All Chemical Prod., New York, N. Y.
Fusion Engineering Co., Cleveland, Ohio.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Johnson Mfg. Co., Inc., Mount Vernon, Iowa
K-G Equipment Co., Allentown, Pa.
Krembs & Co., Chicago, Ill.
Lake Chemical Co., Chicago, Ill.
Marquette Mfg. Co., Minneapolis, Minn.
Metal Bond Mfg. Co., Montgomery City, Mo.
Metalloy Prod. Co., Los Angeles, Calif.
Morey Flux & Chem. Co., Wilmington, Del.
Morgan Aluminum Welding Rod Co., Cleveland, Ohio
National Cylinder Gas Co., Chicago, Ill.
Northeast Metals Co., Philadelphia, Pa.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Sierra Welding Flux Co., Temple City, Calif.
Sight Feed Generator Co., West Alexandria, Ohio
Special Chemical Corp., Ossining, N. Y.
Standard Research, Inc., New Haven, Conn.
Superior Flux & Mfg. Co., Cleveland, Ohio
Tweco Products, Inc., Wichita, Kan.
Welding Alloys Mfg. Co., Newark, N. J.
Weldit, Inc., Detroit, Mich.

ALUMINUM-BRONZE WELDING RODS

Air Reduction Sales Co., New York, N. Y.
Aladdin Rod & Flux Mfg. Co., Grand Rapids, Mich.
Allied Weld-Craft, Inc., Indianapolis, Ind.
Alloy Ring Service, Inc., Indianapolis, Ind.
American Brass Co., Waterbury, Conn.
American Solder & Flux Co., Philadelphia, Pa.
American Welding Alloys Corp., Brooklyn, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Imperial Brass Mfg. Co., Chicago, Ill.
Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Minneapolis, Minn.
Metal & Thermit Corp., Rahway, N. J.
Morgan Aluminum Welding Rod Co., Cleveland, Ohio
National Cylinder Gas Co., Chicago, Ill.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Permalatem Welding Alloys, Inc., Red Bank, N. J.

ALUMINUM SOLDER

Aladdin Rod & Flux Mfg. Co., Grand Rapids, Mich.
Allen, L. B., Co., Inc., Chicago, Ill.
Alloy Ring Service, Inc., Indianapolis, Ind.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Solder & Flux Co., Philadelphia, Pa.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farrelloy Co., Philadelphia, Pa.
Galv-Weld Products, Dayton, Ohio
Johnson Mfg. Co., Inc., Mt. Vernon, Iowa
Kester Solder Co., Chicago, Ill.
Marquette Mfg. Co., Minneapolis, Minn.
Metal Bond Mfg. Co., St. Louis, Mo.
Metalloy Prod. Co., Los Angeles, Calif.
Modern Engineering Co., St. Louis, Mo.
National Lead Co., N. Y., N. Y.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Reynolds Metals Co., Louisville, Ky.
Tweco Products, Inc., Wichita, Kan.
Welding Alloys Mfg. Co., Newark, N. J.
White Metal Rolling & Stamping Corp., Brooklyn, N. Y.

ALUMINUM WELDING RODS

Air Reduction Sales Co., New York, N. Y.
Aladdin Rod & Flux Mfg. Co., Grand Rapids, Mich.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
Aluminum Co. of America, Pittsburgh, Pa.
American Wire Products Co., Inc., Glastonbury, Conn.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Arcos Corp., Philadelphia, Pa.
Atlas Foundry Co., Irvington, N. J.
Champion River Co., Cleveland, Ohio
Chicago Hardware Foundry Co., No. Chicago, Ill.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Hobart Bros. Co., Troy, Ohio
Imperial Brass Mfg. Co., Chicago, Ill.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Morgan Aluminum Welding Rod Co., Cleveland, Ohio
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Reid-Avery Co., Baltimore, Md.
Standard Electrodes & Mfg. Corp., Philadelphia, Pa.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
United Welding Service Co., Franklin, Pa.
Welding Alloys Mfg. Co., Newark, N. J.
Weldit, Inc., Detroit, Mich.

BAR and WIRE SOLDER

Air Reduction Sales Co., New York, N. Y.
Allen L. B., Co., Inc., Chicago, Ill.
Alloy Ring Service, Inc., Indianapolis, Ind.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
Alpha Metals, Inc., Brooklyn, N. Y.
American Smelting & Refining Co., Fed. Metals Div., New York, N. Y.
American Welding Alloys, Inc., Brooklyn, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Division Lead Co., Summit, Ill.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farrelloy Co., Philadelphia, Pa.
Fusion Engineering Co., Cleveland, Ohio
Galv-Weld Products, Dayton, Ohio
Gardiner Metal Co., Chicago, Ill.
Johnson Mfg. Co., Inc., Mt. Vernon, Iowa
Kester Solder Co., Chicago, Ill.
Kirk, Morris P., & Son, Inc., Los Angeles, Calif.
Metal Bond Mfg. Co., St. Louis, Mo.
Metalloy Prod. Co., Los Angeles, Calif.
National Bearing Metals Corp., St. Louis, Mo.
National Lead Co., New York, N. Y.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Swiss Laboratory, Cleveland, Ohio

BRAZE-WELDING FLUXES

Air Reduction Sales Co., New York, N. Y.
Allen L. B. Co., Chicago, Ill.
Alloy Ring Service, Inc., Indianapolis, Ind.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Solder & Flux Co., Philadelphia, Pa.
American Welding Alloys Corp., Brooklyn, N. Y.
American Wire Products Co., Inc., Glastonbury, Conn.
Ampco Metal, Inc., Milwaukee, Wis.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Andco, Inc., Orchard Park, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Burdett Oxygen Co., Cleveland, Ohio
Cleveland Precision Ring & Prod. Co., Cleveland, Ohio
Columbia Chemical Products Co., Detroit, Mich.
Craftsweld Equip. Corp., Long Island City, N. Y.
Dalweld Co., Mt. Vernon, N. Y.
Dackson Corp., Detroit, Mich.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farrelloy Co., Philadelphia, Pa.
F. R. Faulk Equipment Sales, Pittsburgh, Pa.
Gasflux Co., The, Mansfield, Ohio
General Welding & Equip. Co., Boston, Mass.
Harris Calorific Co., Cleveland, Ohio
Hobart Bros. Co., Troy, Ohio
Johnson Gas Appliance Co., Cedar Rapids, Iowa
K-G Equipment Co., Allentown, Pa.
Klem Chemical Works, Detroit, Mich.
Krembs & Co., Chicago, Ill.
Makepeace, D. E., Co., Attleboro, Mass.
Marquette Mfg. Co., Minneapolis, Minn.
Mauk, A. K., Pittsburgh, Pa.
Metal Bond Mfg. Co., St. Louis, Mo.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
National Welding Equip. Co., San Francisco, Calif.
Pal-Weld Mfg. Co., Seattle, Wash.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Phillips, C. E., & Co., Detroit, Mich.
Sight Feed Generator Co., West Alexandria, Ohio
Standard Research, Inc., New Haven, Conn.
Superior Flux & Mfg. Co., Cleveland, Ohio
United Wire & Supply Corp., Providence, R. I.
Victor Equipment Co., San Francisco, Calif.
Welding Alloys Mfg. Co., Newark, N. J.
Welding Gas Products Co., Chattanooga, Tenn.
Weldit, Inc., Detroit, Mich.
Wooldridge Aluminum Welding Products, Inc., Malden, Conn. (Aluminum only)
York Engineering Co., Chicago, Ill.

BRAZING ALLOYS

Air Reduction Sales Co., New York, N. Y.
Allen L. B., Co., Chicago, Ill.
Alloy Ring Service, Inc., Indianapolis, Ind.
Alloys Specialties Co., Inc., Swissvale, Pa.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
Alpha Metals, Inc., Jersey City, N. J.
Aluminum Co. of America, Pittsburgh, Pa.
American Oxygen Service Corp., Harris, N. J.
American Platinum Works, The, Newark, N. J.
American Products Corp., Chicago, Ill.
American Silver Co., Flushing, N. Y.
American Welding Alloys Corp., Brooklyn, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Central Steel & Wire Co., Chicago, Ill.
Chase Brass & Copper Co., Waterbury, Conn.
Cleveland Precision Ring & Products Co., Cleveland, Ohio
Coast Metals, Inc., Little Ferry, N. J.
Craftsweld Equip. Corp., Long Island City, N. Y.
Crucible Steel Co. of Amer., Harrison, N. J.
Dalweld Co., Mt. Vernon, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farrelloy Co., Philadelphia, Pa.
Fusion Engineering Co., Cleveland, Ohio
Goldsmith Bros. Smelting & Ref. Co., Chicago, Ill.
Handy & Harman, New York, N. Y.
Krieg, Chas. W. Co., Newark, N. J.
Makepeace, D. E., Co., Attleboro, Mass.
Marquette Mfg. Co., Minneapolis, Minn.
McCauley Alloy Sales Co., Chicago, Ill.
Metal Bond Mfg. Co., St. Louis, Mo.
Mueller Brass Co., Port Huron, Mich.
National Cylinder Gas Co., Chicago, Ill.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Revere Copper & Brass, Inc., New York, N. Y.
Steel Sales Corp., Chicago, Ill.
Sherman & Co., Flushing, N. Y.
Superweld Corp., N. Hollywood, Calif.
Titan Metal Mfg. Co., Bellefonte, Pa.
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Trade names of silver brazing alloys

No.	Composition, per cent					Melting Range		Recommended brazing temp., deg F	American Platinum Works (S = Silvaloy)	Goldsmith Bros. (GB)	Handy & Harman (E = Easy-Flo)	Unit. Wire & Sup. Co. (S = Sil) (SB = Sil/-Bond)	ASTM		Federal Spec QQ-S-561d	Mil. S-15395 Ships	SAE Aero. Mat'l Spec.	No.
	Ag	Cu	Zn	Cd	Other	Solidus deg F	Liquidus deg F						B73-29	B260-52T				
1	85				Mn 15	1760	1778	1800	850	85	85Ag-15Mn	S-85M	2	BAg Mn	(Superseded	(Superseded	4776	1
2	80	16	4			1360	1490	1500	A-49	80	IT	S-80	8		U. S.	Navy		2
3	75	22	3			1365	1450	1450	Hard	75	Hard			BAg 11	Air	47-S-13C)		3
4	75	20	5			1350	1425	1450			#1				Force			4
5	75		25			1310	1325	1325	K-427		Tr #1				Spec			5
6	72	28				1435	1435	1450	301	72	BT	SIL-72		BAg-8	11342)			6
7	70	20	10			1335	1390	1400	Med.	70	Med.	S-70	7	BAg-10				7
8	65	20	15			1280	1325	1350	Easy	65	Easy	S-65	6	BAg-9	2			8
9	65	28			Mn5, Ni2	1380	1450	1500			RE-MN							9
10	60	25	15			1260	1325	1350	A-33	60	RT	S-60						10
11	60	30			Sn 10	1120	1370	1350	60		RT-SN	S-60T						11
12	60	27			In 13	1125	1370	1300										12
13	56	22	17		Sn 5	1145	1205	1250	S-355	56	ER	S-56T		BAg-7				13
14	54	40	5		Ni 1	1375*	1575	1600	54	54	4772	S-54N					4772A	14
15	50	15.5	16.5	18.0		1160	1175	1175	S-50	50	E 50	SB-50		BAg-1a	4	IV	4770B	15
16	50	15	25	10		1160	1185	1200							6A			16
17	50	34	16			1275	1425	1425	S-25	250	ETX	S-50	5	BAg-6				17
18	50	15.5	15.5	16	Ni 3	1170		1270	503	350	E #3	SB-50N		BAg-3	5	V		18
19	50	28	22			1250	1340	1350	A-28		ET							19
20	45	15	16	24		1125	1145	1150	S-45	45	E 45	SB-45		BAg-1		VII		20
21	45	30	25			1250	1370	1375	A-18	145	DE	S-45	4	BAg-5	1			21
22	45	18	21	16		1140	1190	1180										22
23	41	17	18	24		1125	1190	1160		41								23
24	40	18	15	27		1135	1205	1200										24
25	40	30	28		Ni 2	1240	1435	1400	S-250	240	SS	S-40N		BAg-4				25
26	40	36	24			1250	1400	1400	A-14		DT	S-EEN						26
27	40	30	25		Ni 5	1250	1600	1500	254	540								27
28	35	26	21	18		1125	1295	1300	S-35	35	E 35	SB-35		BAg-2		VIII	4768T	28
29	30	29	21	20		1125	1300	1300		31								29
30	30	38	32			1370	1410	1400	A-13		NT	S-30						30
31	20	45	30	5		1140	1500	1400	S-20	20	ATT	S-20C	3					31
32	20	45	35			1430	1500	1450	A-11		AT Spec.	S-20	2		0	0		32
33	15	80			P 5	1185	1500	1300	S-15	15	Sil-Fos	PHOS. 15		BCuP-5	3	III		33
34	10	52	38			1550	1580	1580	A-4	110			1					34
35	7	85			Sn 8	1225	1805	1550	D-7		SN #7							35
36	6	86.5			P 7.5	1185	1380	1300				PHOS. 6		BCuP-4				36
37	5	58	37			1575	1600	1600			TE Spec.	S-5						37
38	2	91			P 7	1185	1450	1300		1270								38
39	5	88.75			P-6.25	1190	1500	1300	5		Sil-Fos 5			BCuP-3				39

BRAZING ALLOY RINGS

Air Reduction Sales Co., New York, N. Y.
Allen, L. B., Co., Chicago, Ill.
Alloy Ring Service, Inc., Indianapolis, Ind.
Alloy Specialties Co., Inc., Swissvale, Pa.
Al-State Welding Alloys Co., Inc., White Plains, N. Y.
American Oxygen Service Corp., Harrison, N. J.
American Platinum Works, The, Newark, N. J.
American Silver Co., Inc., Flushing, N. Y.
American Welding Alloys Corp., Brooklyn, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Cleveland Precision Ring & Products Co., Cleveland, Ohio
Dalweld Co., Mt. Vernon, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Goldsmith Bros. Smelting & Ref. Co., Chicago, Ill.
Handy & Harman, New York, N. Y.
Krieg Co., Charles W., Newark, N. J.
Lucas-Milhaupt Engineering Co., Cudahy, Wis.
National Cylinder Gas Co., Chicago, Ill.
Sherman & Co., Flushing, N. Y.
Steel Sales Corp., Chicago, Ill.
United Wire & Supply Corp., Providence, R. I.
Weldit, Inc., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.

BRAZING FLUXES

Air Reduction Sales Co., New York, N. Y.
Aladdin Rod & Flux Mfg. Co., Grand Rapids, Mich.
Allen, L. B., Co., Chicago, Ill.
Alloy Ring Service, Inc., Indianapolis, Ind.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Chemical & Flux Co., Brooklyn, N. Y.
American Platinum Works, The, Newark, N. J.
American Products Corp., Chicago, Ill.
American Silver Co., Inc., Flushing, N. Y.
American Solder & Flux Co., Philadelphia, Pa.
Ampco Metal, Inc., Milwaukee, Wis.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Anti-Borax Compound Co., Inc., Ft. Wayne, Ind.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Champion Rivet Co., Cleveland, Ohio
Cleveland Precision Ring & Prod. Co., Cleveland, Ohio
Craftweld Equipment Corp., Long Island City, N. Y.
Dalweld Co., Mt. Vernon, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farrelloy Co., Philadelphia, Pa.
Gasflux Co., The, Mansfield, Ohio
Goldsmith Bros. Smelting & Ref. Co., Chicago, Ill.
Handy & Harman, New York, N. Y.
International Nickel Co., Inc., The, New York, N. Y.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Johnson Mfg. Co., Inc., Mount Vernon, Iowa
Krembs & Co., Chicago, Ill.
Lake Chemical Co., Chicago, Ill.
Makepeace, D. E., Co., Attleboro, Mass.
Marquette Mfg. Co., Minneapolis, Minn.
Modern Engineering Co., St. Louis, Mo.
National Cylinder Gas Co., Chicago, Ill.
Northeast Metals Co., Philadelphia, Pa.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Sherman & Co., Flushing, N. Y.
Smith Welding Equip. Corp., Minneapolis, Minn.
Special Chemical Corp., Ossining, N. Y.
Standard Research, Inc., New Haven, Conn.
Steel Sales Corp., Chicago, Ill.
Superior Flux & Mfg. Co., Cleveland, Ohio
Superweld Corp., N. Hollywood, Calif.
United Wire & Supply Corp., Providence, R. I.
Victor Equipment Co., San Francisco, Calif.
Weldit, Inc., Detroit, Mich.
White, L. B., Co., Onalaska, Wis.
York Engineering Co., Chicago, Ill.

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See Standard Specs These Alloys Meet!

Name	MILITARY S-15395 (was Navy 47-S-13a)	FEDERAL QQS-561-d Army Chem. Warfare 196-131-80	Aero Mat'l Spec.	ASTM B260-52T & AWS A5-8-52T	U. S. Army 57-97-1A	% Silver	Solidus °F	Liquidus °F
Sil-Bond 50	IV	4	4770B	—	—	50	1160	1175
Sil-Bond 50N	V	5	—	BAg-3	—	50	1195	1270
Sil-Bond 45	VII	—	—	BAg-1	7	45	1125	1145
Sil-Bond 35	VIII	—	—	BAg-2	8	35	1125	1295
Sil-40N	—	—	—	BAg-4	—	40	1220	1435
Sil-45	1	1	—	BAg-5	—	45	1250	1370
Sil-50	—	—	—	BAg-6	—	50	1275	1425
Sil-56T	—	—	—	BAg-7	—	56	1145	1205
Sil-72	—	—	—	BAg-8	—	72	1435	1435
Sil-65	11	2	—	BAg-9	—	65	1280	1325
Sil-70	—	—	—	BAg-10	—	70	1335	1390
Sil-85M	—	—	4766	BAgMn	—	85	1745	1760
Sil-54N	—	—	4772	—	—	54	1325	1575
Sil-20	—	—	—	—	—	20	1430	1500
Sil-20C	0	0	—	—	—	20	1140	1300
Sil-9	—	—	—	—	—	9	1510	1575
Phoson-15	111	111	—	BCuP5	—	15	1185	1500
Phoson-6	—	—	—	BCuP4	—	6	1185	1480
Phoson-0	MIL-C-20158 (was 47C3)	—	—	BCuP2	—	0	1305	1485
Sil Flux	S1F4A	Air Force MIL-F-4483	AMS 3410	—	4-1121	—	FLUID 1100°F-1600°F	

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Alloy Ring Service, Inc., Indianapolis, Ind.
Alloy Specialties Co., Swissvale, Pa.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
Aluminum Co., of America, Pittsburgh, Pa.
Aluminum Wire Prods. Co., Inc., Glastonbery, Conn.
American Chain & Cable Co., Inc., Page Steel & Wire Div., Monessen, Pa.
American Platinum Works, The, Newark, N. J.
American Welding Alloys Corp., Brooklyn, N. Y.
American Wire Products Co., Glastonbury, Conn.
Ampco Metal, Inc., Milwaukee, Wis.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Bridgeport Brass Co., Bridgeport, Conn.
Burdett Oxygen Co., Cleveland, Ohio
Champion Rivet Co., Cleveland, Ohio
Eutectic Welding Alloys Corp., Flushing, N. Y.
Handy & Harman, New York, N. Y.
Marquette Mfg. Co., Minneapolis, Minn.
McCauley Alloy Sales Co., Chicago, Ill.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Morgan Aluminum Welding Rod Co., Cleveland, Ohio
Mueller Brass Co., Port Huron, Mich.
National Cylinder Gas Co., Chicago, Ill.
Fermalatem Welding Alloys, Inc., Red Bank, N. J.
Revere Copper & Brass, Inc., New York , N. Y.
Titan Metal Mfg. Co., Bellefonte, Pa.
United Wire & Supply Corp., Providence, R. I.
Universal Welder Corp., Cleveland, Ohio
Weldit, Inc., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.

BRONZE WELDING RODS

Air Reduction Sales Co., New York, N. Y.
Allied Weld-Craft, Inc., Indianapolis, Ind.
Alloy Ring Service, Inc., Indianapolis, Ind.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Brass Co., Wgterbury, Conn.
American Welding Alloys Corp., Brooklyn, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Bridgeport Brass Co., Bridgeport, Conn.
Burdett Oxygen Co., Cleveland, Ohio
Central Steel & Wire Co., Chicago, Ill.
Champion Rivet Co., Cleveland, Ohio
Chase Brass & Copper Co., Waterbury, Conn.
Dalweld Co., Mt. Vernon, N. Y.
Drawalloy Corp., York, Pa.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Imperial Brass Mfg. Co., Chicago, Ill.
Johnston, A. P., Los Angeles, Calif.
Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Morgan Aluminum Welding Rod Co., Cleveland, Ohio
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Mueller Brass Co., Port Huron, Mich.
National Cylinder Gas Co., Chicago, Ill.
National Welding Equipment Co., San Francisco, Calif.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Fermalatem Welding Alloys, Inc., Red Bank, N. J.
Phosphor Bronze Corp., The, Seymour, Conn.
Scovill Mfg. Co., Waterbury, Conn.
Seymour Mfg. Co., The, Seymour, Conn.
Sight Feed Generator Co., W. Alexandria, Ohio
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Titan Metal Mfg. Co., Bellefonte, Pa.
Welding Alloys Mfg. Co., Newark, N. J.
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CAST-IRON FLUXES

Air Reduction Sales Co., New York, N. Y.
Allen, L. B., Co., Chicago, Ill.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Oxygen Service Corp., Harrison, N. J.
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American Solder & Flux Co., Philadelphia, Pa.
American Welding Alloys Corp., Brooklyn, N. Y.
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Champion Rivet Co., Cleveland, Ohio
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Smith Welding Equipment Corp., Minneapolis, Minn.
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American Welding Alloys Corp., Brooklyn, N. Y.
Central Steel & Wire Co., Chicago, Ill.
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Marquette Mfg. Co., Minneapolis, Minn.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Permalatem Welding Alloys Inc., Red Bank, N. J.
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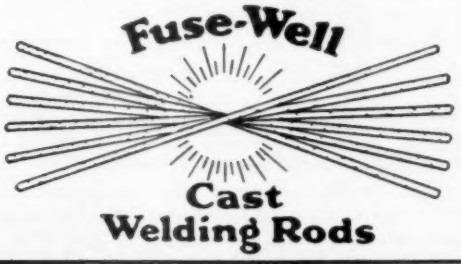

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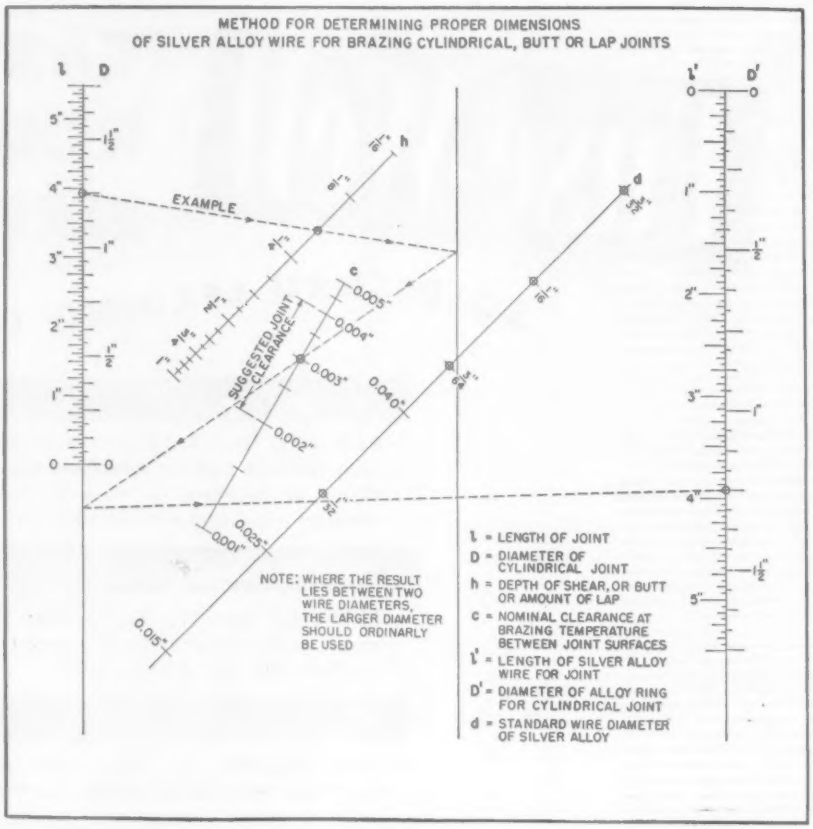
How to figure diameter or length of brazing wire


METHOD FOR DETERMINING PROPER DIMENSIONS
OF SILVER ALLOY WIRE FOR BRAZING CYLINDRICAL, BUTT OR LAP JOINTS
EXAMPLE
SUGGESTED JOINT CLEARANCE
0.005"
0.004"
0.003"
0.002"
0.001"
0.025"
0.040"
0.015"
NOTE: WHERE THE RESULT LIES BETWEEN TWO WIRE DIAMETERS, THE LARGER DIAMETER SHOULD ORDINARLY BE USED
l = LENGTH OF JOINT
D = DIAMETER OF CYLINDRICAL JOINT
h = DEPTH OF SHEAR, OR BUTT OR AMOUNT OF LAP
c = NOMINAL CLEARANCE AT BRAZING TEMPERATURE BETWEEN JOINT SURFACES
l' = LENGTH OF SILVER ALLOY WIRE FOR JOINT
D' = DIAMETER OF ALLOY RING FOR CYLINDRICAL JOINT
d = STANDARD WIRE DIAMETER OF SILVER ALLOY

THE accompanying nomograph is a guide for selecting the proper alloy wire size for brazing tubular or linear joints of given specifications. This procedure applies to screw machine and other machined parts in which nominal tolerances are maintained fairly closely.

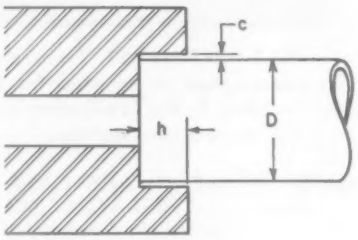
This nomograph can be used in two ways.

It can indicate the *wire diameter* needed to silver braze a joint whose diameter (or length), shear depth (or lap), and clearance are known. The chart is constructed to include allowances for normal machining tolerances and variations in workers' brazing techniques.

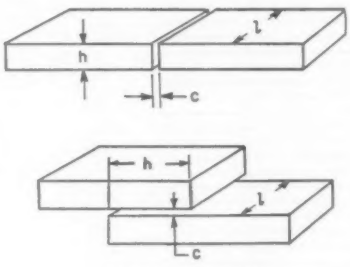
In the example illustrated, the problem is to find the proper wire diameter for a silver alloy ring to braze a cylindrical joint having these dimensions: diameter, 1¼ in.; shear depth, 3/16 in.; clearance, 0.003 in.

Starting on the left axis of the chart, extended a line from the joint diameter (1¼ in.) on the *D* scale through the shear depth (3/16 in.) on the *h* scale to intersect the center axis. From this point run the line back through the clearance (0.003 in.) on the *c* scale to intersect the left-hand axis. Line up this point with the required ring diameter (1¼ in.) on the *D'* scale.

The point where this line crosses the *d* scale, indicates that the wire diameter should be 1/32 in. When the result lies between two wire sizes, the larger diameter normally should be selected.



CYLINDRICAL JOINT



LINEAR JOINTS

Second, the nomograph may be used to determine the *length* of wire needed to make a joint if a given wire gage is already available. For example, suppose you must braze with hand-fed alloy a 3-in. linear joint, with a ½-in. lap and 0.001 clearance.

Assuming you already have 3/64-in. wire available, you can easily determine the minimum length of this wire needed per joint. From the intersecting point on the left-hand axis (found by using the *l*, *h*, and *c* scales), extend a line through the 3/64-in. mark on the *d* scale to the *l'* scale. The intersection on the *l'* scale indicates that for 3/64-in. wire, a 1⅛-in. length would provide the proper volume of silver alloy to fill the joint.

Multiplying the required length per joint by the number of joints to be brazed will give an approximate total amount of wire needed for an entire production run.

—Courtesy Handy & Harman

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MAGNESIUM FLUXES

(See: "Aluminum Fluxes")

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Farrelloy Co., Philadelphia, Pa.
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Metallizing Engineering Co., Inc., Long Island, N. Y.
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Reid-Avery Co., Baltimore, Md.
Standard Steel & Wire Co., Bolivar, Pa.
Wall Colmonoy Corp., Detroit, Mich.
Welding Alloys Mfg. Co., Newark, N. J.
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Youngstown Sheet & Tube Co., Youngstown, Ohio

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Central Steel & Wire Co., Chicago, Ill.
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Eastern Equipment Co., Inc., Willow Grove, Pa.
Eutectic Welding Alloys Co., Flushing, N. Y.
Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
McKay Co., The, Pittsburgh, Pa.
Metal & Thermit Corp., Rahway, N. J.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
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American Welding Alloys Corp., Brooklyn, N. Y.
Arcos Corp., Philadelphia, Pa.
Crucible Steel Co. of America, Pittsburgh, Pa.
Eutectic Welding Alloys Corp, Flushing, N. Y.
International Nickel Co., Inc., The, New York, N. Y.
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Pacific Welding Alloys Mfg. Co., Los Angeles, Calif
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Eutectic Welding Alloys Corp., Flushing, N. Y.
International Nickel Co., Inc., The, New York, N. Y.
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Marquette Mfg. Co., Inc., Minneapolis, Minn.
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Sight Feed Generator Co., West Alexandria, Ohio
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Industrial Overlay Metals, Eaton, Ohio
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Superweld Corp., N. Hollywood, Calif.

RODS, Welding

(See: "Aluminum Rods, Brazing Rods, Bronze, Cast Iron, Etc.")

RINGS, Brazing Alloys

(See: "Brazing Alloy Rings")

SOLDER, Brazing

(See: "Brazing Alloys")

SOLDER, Hard

(See: "Brazing Alloys")

SOLDER, Silver

(See: "Brazing Alloys")

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Aluminum Co. of America, Pittsburgh, Pa.
American Silver Co., Inc., Flushing, N. Y.
American Solder & Flux Co., Philadelphia, Pa.
American Welding Alloys Corp., Brooklyn, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Burdett Oxygen Co., Cleveland, Ohio
Dalweld Co., Mt. Vernon, N. Y.
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American Chemical & Flux Co., Brooklyn, N. Y.
American Products Corp., Chicago, Ill.
American Silver Co., Inc., Flushing, N. Y.
American Solder & Flux Co., Philadelphia, Pa.
American Welding Alloys Corp., Brooklyn, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Andco, Inc., Orchard Park, N. Y.
Anti-Borax Compound Co., Inc., Ft. Wayne, Ind.
Arcos Corp., Philadelphia, Pa.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Burdett Oxygen Co., The, Cleveland, Ohio
Cleveland Precision Ring & Products Co., Cleveland, Ohio
Croton Chemical Corp., New York, N. Y.
Dockson Corp., Detroit, Mich.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farralloy Co., Philadelphia, Pa.
Flux-All Chemical Products, New York, N. Y.
Gasflux Co., The, Mansfield, Ohio
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Johnson Mfg. Co., Inc., Mt. Vernon, Iowa
Kester Solder Co., Chicago, Ill.
Kirk, Morris P., & Son, Inc., Los Angeles, Calif.
Klem Chemicals, Inc., Dearborn, Mich.
Krembs & Co., Chicago, Ill.
Morey Flux & Chem. Co., Wilmington, Del.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Sherman & Co., Flushing, N. Y.
Solar Aircraft Co., San Diego, Calif.
Special Chemicals Corp., Ossining, N. Y.
Superior Flux & Mfg. Co., Cleveland, Ohio
United Wire & Supply Corp., Providence, R. I.
Weldit, Inc., Detroit, Mich.

STAINLESS STEEL WELDING RODS

Air Reduction Sales Co., New York, N. Y.
Allegheny-Ludlum Steel Corp., Pittsburgh, Pa.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Arcos Corp., Philadelphia, Pa.
Carpenter Steel Co., The, Reading, Pa.
Central Steel & Wire Co., Chicago, Ill.
Champion Rivet Co., Cleveland, Ohio
Crucible Steel Co. of America, Pittsburgh, Pa.
Drawalloy Corp., York, Pa.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Johnston, A. P., Los Angeles, Calif.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
McCauley Alloy Sales Co., Chicago, Ill.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Page Steel & Wire Div., Amer. Chain & Cable Co. Inc., Monessen, Pa.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Reid-Avery Co., Baltimore, Md.
Republic Stetel Corp., Cleveland, Ohio
Smith, A. O., Corp., Milwaukee, Wis.

TOOL and DIE WELDING RODS

Air Reduction Sales Co., New York, N. Y.
Alloy Rods Co., York, Pa.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
Crucible Steel Co. of America, Pittsburgh, Pa.
Drawalloy Corp., York, Pa.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
National Cylinder Gas Co., Chicago, Ill.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Phillips, C. E. & Co., Detroit, Mich.
Resisto-Loy Co., Grand Rapids, Mich.
Standard Steel & Wire Co., Bolivar, Pa.
Welding Equipment & Supply Co., Detroit, Mich.

TUNGSTEN CARBIDE WELDING RODS

Air Reduction Sales Co., New York, N. Y.
Alloy Rods Co., York, Pa.
American Manganese Steel Co., Chicago Heights, Ill.
Coast Metals, Inc., Little Ferry, N. J.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Haynes Stellite Company, Kokomo, Indiana
Industrial Overlay Metals, Inc., Eaton, Ohio
Mir-o-Col Alloy Co., Inc., Los Angeles, Calif.
National Cylinder Gas Co., Chicago, Ill.
Purnell Alloy Co., Angelton, Texas
Sight Feed Generator Co., The, W. Alexandria, Ohio
Stoody Co., Whittier, Calif.
Victor Equipment Co., San Francisco, Calif.

WELDING and BRAZING KITS

Air Reduction Sales Co., New York, N. Y.
Alloy Ring Service, Inc., Indianapolis, Ind.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Oxygen Service Corp., Harrison, N. J.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Atlas Welding Accessories Co., Ferndale, Mich.
Burdett Oxygen Co., Cleveland, Ohio
Dockson Corp., Detroit, Mich.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farrelloy Co., Philadelphia, Pa.
Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Millburn, Inc., Alexander, Baltimore, Md.
National Cylinder Gas Co., Chicago, Ill.
National Torch Tip Co., Pittsburgh, Pa.
National Welding Equip. Co., Ltd., San Francisco, Calif.
Sight-Feed Generator Co., West Alexandria, Ohio
Victor Equipment Co., San Francisco, Calif.
Weldit, Inc., Detroit, Mich.

WELDING COMPOUNDS

(See: "Galvanizing Compounds," "Tinning Compounds")

WHITE METAL WELDING RODS

Air Reduction Sales Co., New York, N. Y.
Aladdin Rod & Flux Mfg. Co., Grand Rapids, Mich.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Brass Co., Waterbury, Conn.
American Welding Alloys Corp., Brooklyn, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farralloy Co., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Ragle, J. M., Industries, Kansas City, Mo.
Welding Alloys Mfg. Co., Newark, N. J.
White, L. B., Co., Grand Rapids, Mich.
White Metal Rolling & Stamping Corp., Brooklyn, N. Y.

Miscellaneous

CASE HARDENING COMPOUNDS

All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Cyanamid Co., New York, N. Y.
American Welding Alloys Corp., Brooklyn, N. Y.
Anti-Borax Compound Co., Inc., Fort Wayne, Ind.
Armor-Tuf Sales Co., New York, N. Y.
Doughty Lab. Co., New York, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Holden, A. F. Co., The, Detroit, Mich.
Houghton, E. F., & Co., Philadelphia, Pa.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Standard Research Inc., New Haven, Conn.

ELECTRODE COATING MATERIALS

American Products Corp., Chicago, Ill.
Authauser Brothers Corp., New York, N. Y.
Foote Mineral Company, Philadelphia, Pa.
Hoeganaes Sponge Iron Corp., Riverton, N. J.
Metal & Thermit Corp., New York, N. Y.
Philadelphia Quartz Co., Philadelphia, Pa.
Shieldalloy Corp., New York, N. Y.
Thompson & Co., Oakmont, Pa.
Titanium Alloy Mfg. Div., New York, N. Y.

ELECTRODE PROCESSING EQUIPMENT

Authauser Bros., New York, N. Y.
Moslo Machinery Co., Cleveland, Ohio
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Yoder Co., Cleveland, Ohio

EXTRUSION PRESSES, Electrode

Authauser Brothers Corp., New York, N. Y.
Baldwin Locomotive Works, The, Philadelphia, Pa.
Detroit First Aid Co., Detroit, Mich.
Hydraulic Press Mfg. Co. The, Mount Gilead, Ohio

FLUX, Reclamation and Crushing

(See also: "Submerged-Arc Flux Crusher")

Atlas Welding & Mfg. Co., Long Beach, Calif.
Robert Holmes & Bros., Inc., Danville, Illinois

FORGE WELDING COMPOUNDS

Allen, L. B., Co., Inc., Chicago, Ill.
Anti-Borax Compound Co., Inc., Fort Wayne, Ind.
Krembs & Co., Chicago, Ill.
Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Smith Welding Equip. Corp., Minneapolis, Minn.
Victor Equipment Co., San Francisco, Calif.

GALVANIZING COMPOUNDS

Allen, L. B. Co., Inc., Chicago, Ill.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Solder & Flux Co., Philadelphia, Pa.
du Pont, E. I., de Nemours & Co., Inc., Wilmington, Dela.
Farraloy Co., Philadelphia, Pa.
Galv-Weld, Inc., Dayton, Ohio (Stick forms)
Johnson Mfg. Co., Inc., Mount Vernon, Iowa
Metalloy Products, Inc., Los Angeles, Calif.
Smith, G. W., & Sons, Inc., Dayton, Ohio

POTASSIUM SILICATE

du Pont de Nemours & Co., Inc., E. I., Grasselli Chemicals Dept., Wilmington, Del.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Philadelphia Quartz Co., Philadelphia, Pa.

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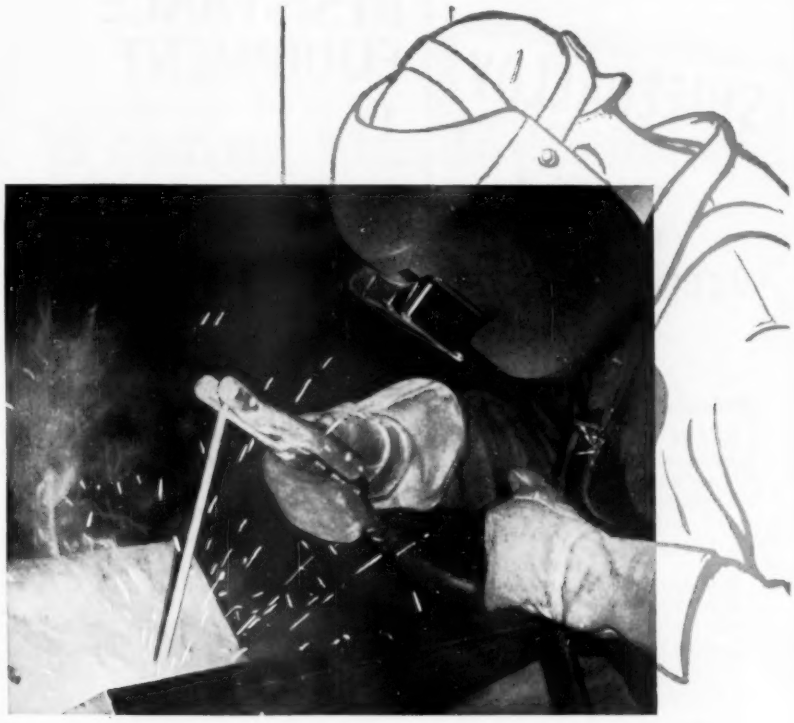

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- ILMENITE
- IRON CARBONATE
- IRON OXIDE (HEMATITE AND MAGNETITE ORES)
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- "SM" MICA
- RUTILE "96" (MILLED AND GRANULAR)
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RESISTANCE EQUIPMENT

THE 700 series of the NWSA Tab-Index System consists of all types of resistance-welding machines, controls and accessories.

Resistance welding captured only 7.1% of the 1955 welding market, but its increase was greater percentage-wise than the gas and arc fields. Sales for last year hit an all-time high of more than $50,000,000. The outlook for this year is even better.

While NWSA has arranged the sub-heads in a logical alphabetical order so far as resistance equipment is concerned, the Fact File Issue carries the alphabetical listing throughout. The sub-heads are:

710 Butt welding
720 Flash welding
730 Projection welding
740 Seam welding
750 Spot welding
760 Controls
770 Tip-wheels
780 Miscellaneous
790 Accessories

(Continued from page 54)

SODIUM SILICATE

American Chemical & Flux Co., Brooklyn, N. Y.
Diamond Alkali Co., Pittsburgh, Pa.
E. I. duPont deNemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Philadelphia Quartz Co., Philadelphia, Pa.

SURFACE-HARDENING POWDER

All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Welding Alloys, Inc., Brooklyn, N. Y.
Anti-Borax Compound Co., Inc., Ft. Wayne, Ind.
Armor-Tuf Sales Corp., New York, N. Y.
Doughty Laboratories, Inc., New York, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Krembs & Co., Chicago, Ill.
Lincoln Electric Co., Cleveland, Ohio
Wall Colmonoy Corp., Detroit, Mich.

TINNING COMPOUNDS

Aladdin Rod & Flux Co., Grand Rapids, Mich.
Allen, L. B., Co., Inc., Chicago, Ill.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
American Welding Alloys Corp., Brooklyn, N. Y.
Anti-Borax Compound Co., Inc., Fort Wayne, Ind.
Division Lead Co., Summit, Ill.
E. I. duPont de Nemours & Co., Grasselli Chemicals Dept., Wilmington, Del.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Farrelloy Co., Philadelphia, Pa.
Flux-All Chemical Products, New York, N. Y.
Johnson Mfg. Co., Inc., Mt. Vernon, Iowa
Kirk, Morris P., & Son, Inc., Los Angeles, Calif.
Klem Chemicals, Inc., Dearborn, Mich.
Krembs & Co., Chicago, Ill.
Metal Bond Mfg. Co., St. Louis, Mo.
Metalloy Prod. Co., Los Angeles, Calif.
Modern Engineering Co., St. Louis, Mo.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Ruby Chemical Co., The, Columbus, Ohio
G. W. Smith & Sons, Inc., Dayton, Ohio
Swiss Laboratory, Cleveland, Ohio
Wayne Chemical Products Co., Detroit, Mich.
York Engineering Co., Chicago, Ill.

TITANIUM OXIDE

Foote Mineral Co., Philadelphia, Pa.
Shieldalloy Corp., Newfield, N. J.
Titanium Alloy Mfg. Div., New York, N. Y.

AUTOMATIC TIMERS

(See: "Resistance Welding Timers")

BENCH WELDERS

Acro Welder Mfg. Co., Milwaukee, Wis.
Banner Welder, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Federal Tool Engineering Co., Cedar Grove, N. J.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Metron Instrument Co., Denver, Colo.
Peer, Inc., Benton Harbor, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor- Winfield Corp., Warren, Ohio
Thomsan Electric Welder Co., Lynn, Mass.
Tweezer Weld, Div. of Federal Tool Engrg., Inc., Newark, N. J.
Unitek Corp., Pasadena, Calif.
Vangtronic Corp., The, Bridgeport, Conn.

BRAZERS, Band Saw Electric

(See: "Resistance-Brazing Machines")

BRAZING MACHINES, Resistance

(See: "Resistance-Brazing Machines")

BRAZING OUTFITS, Incandescent Carbon

Acro Welder Mfg. Co., Milwaukee, Wis.
Banner Welder, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Ergolyte Mfg. Co., Philadelphia, Pa.
Ideal Industries, Inc., Sycamore, Ill.
Marquette Mfg. Co., Minneapolis, Minn.
Progressive Welder Co., Detroit, Mich.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Trindl Products, Ltd., Chicago, Ill.
Weldex, Inc., Detroit, Mich.

BUTT and FLASH WELDERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Agnew Electric Co., Milford, Mich.
Alphil Spot Welder Mfg. Co., Brooklyn, N. Y.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Central Sales Corp., The, Chicago, Ill.
Eisler Engineering Co., Inc., Newark, N. J.
Expert Welding Mach. Co., The, Detroit, Mich.
Federal Mach. & Welder Co., The, Warren, Ohio
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Link Welder Corp., Detroit, Mich.
Multi-Hydromatic Welding & Mfg. Co., East Detroit, Mich.
National Electric Welding Mach. Co., Bay City, Mich.
Peer, Inc., Benton Harbor, Mich.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Progressive Welder Sales Co., Detroit, Mich.
Resistance Welder Corp., Bay City, Mich.
Rex Welder & Equipment Co., Kansas City, Mo.
Sciaky Bros., Inc., Chicago, Ill.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
Universal Welder Corp., Cleveland, Ohio
Vangtronic Corp., The, Bridgeport, Conn.
Weldex, Inc., Detroit, Mich.
Welding Machines Mfg. Co., Detroit, Mich.

BUTT-WELDING ATTACHMENT

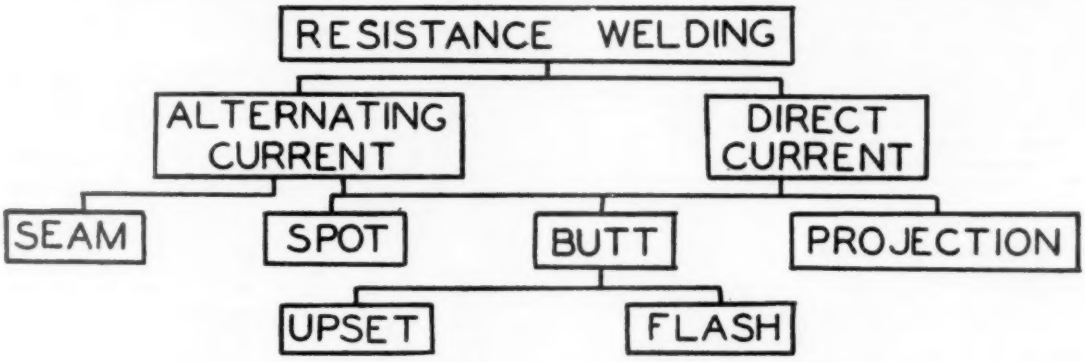
Acme Electric Welder Co., Los Angeles, Calif.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Eisler Engineering Co., Inc., Newark, N. J.
Federal Tool Engineering Co., Cedar Grove, N. J.
Hoffman, Robt. W., Co., Inc., Chicago, Ill.
Peer, Inc., Benton Harbor, Mich.
Stryco Mfg. Co., San Francisco, Calif.
Taylor-Winfield Corp., Warren, Ohio
Universal Welder Corp., Cleveland, Ohio

CARBON-PILE CONTACTORS

Clark Controller Co., The, Cleveland, Ohio
Hoffman, R. W. Co., Inc., Chicago, Ill.
Ohio Carbon Co., Cleveland, Ohio
Speer Carbon Co., St. Marys, Pa.
Stackpole Carbon Co., St. Marys, Pa.

TRADE NAME SECTION BEGINS ON PAGE 92

Resistance Welding Fundamentals



Definition

Resistance welding is a pressure welding process wherein the heat for welding is obtained by the resistance to flow of an electric current.

Principle

Resistance welding is accomplished when two or more pieces of metal are clamped between copper electrodes and an electric current is passed through them. Heat generated between the pieces of metal reduces the metal to a plastic state; then clamping pressure induces fusion. Pressure is required to make the resistance between the electrodes and the metal low as compared to the resistance between the pieces of metal; this condition must prevail when power is applied if burning of the working surfaces is to be avoided.

Fundamental Factors

The three fundamental factors which must be controlled in resistance welding are:

1. Current.
2. Time.
3. Pressure.

Heat Generation

It should be remembered that in any resistance welding process, the heat is generated within the metal and is not heat absorbed from an outside source. For this reason, the heat generated in resistance welding may be determined by the simple formula: Heat equals (Current)^2 times Resistance times Time or $H = I^2RT$.

Heat Generated

The energy represented by the expression I^2RT may be expressed in electrical units as watt-seconds or heat units as calories. If expressed in calories, a factor of 0.24 must be inserted in the formula as a watt-second is 0.24 calories. When resistance welding heat is to be discussed in calories, the formula becomes: Calories$=0.24\ I^2RT$.

Current Variables

Resistance welding current has three fundamental variables which must be controlled for consistent results. These are: (1) timing, (2) characteristic of the current wave during welding and (3) value of the current for a given weld.

Timing

Weld current timing in resistance welding may be accomplished by one of several methods. For example: (1) manually timed magnetic contactors, (2) mechanically timed magnetic contactors, (3) electrically timed magnetic contactors, (4) synchronous-motor-operated contactors, (5) electrically or mechanically timed ignitron tube contactors, (6) fully synchronous electronic timers.

Resistance Factors

The resistance in resistance welding is obtained from three sources: (1) The specific resistance of the material to be welded; this resistance is constant. The resistance from the other sources varies according to the pressure used. These resistances are: (2) resistance between the electrode and the work and (3) resistance between the pieces to be welded.

Pressure Methods

Pressure in resistance welding may be obtained: (1) mechanically, (2) pneumatically, (3) hydraulically, or (4) by a combination of one or more of these means.

Spot Welding Variables

Ten variables affect spot welding results:

1. Human element.
2. Pressure.
3. Current.
4. Time.
5. Material.
6. Length of horns.
7. Distance between horns.
8. Power factor of welder and circuit.
9. Condition of electrodes and work.
10. Type and condition of work.

TETRA-DIP for Surer ALUMINUM Welding

Ask about our TETRA-DIP Cycle for preparing Aluminum (base, clad, coatings) for spot and other forms of welding. TETRA-DIP not only cleans the surface and removes the oxide but renders the metal passive. It stays de-oxidized for days, even weeks. Welding need not follow the dip operations immediately. Your CLEPO Service Engineer can advise you of correct procedures. CLEPO Laboratories have pioneered in this field and can give you help on special problems.

Since 1933, Manufacturers of metal cleaners and special finishing and processing compounds for all metals.

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538 Forest St., Kearney, N. J.

CLEANERS, Metal
(For Resistance Welding)

Diversey Corp., Chicago, Ill.
Frederick Gumm Chemical Co., Kearney, N. J.
Oakite Products, Inc., New York, N. Y.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Turco Products, Inc., Los Angeles, Calif.

COILS, Preheating, Annealing & Stress-Relieving

Ajax Electro Thermic Corp., Trenton, N. J.
Electric Arc, Inc., Newark, N. J.
Falcon Equipment Co., New Brighton, Pa.
Federal Telephone and Radio Corp., New York, N. Y.
Lepel High Frequency Labs., Inc., New York, N. Y.
Peterson Welding Laboratories, Kansas City, Mo.
Sciaky Bros., Chicago, Ill.
Shrader, F. W., Culver City, Calif.
Westinghouse Electric Corp., Pittsburgh, Pa.

ELECTRODE DRESSERS, Resistance Welding

Acme Electric Welder Co., Los Angeles, Calif.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Eisler Engineering Co., Inc., Newark, N. J.
Electroloy Co., Inc., Bridgeport, Conn.
Keller Tool Co., Grand Haven, Mich.
Mallory, P. R. & Co., Inc., Indianapolis, Ind.
Peer, Inc., Benton Harbor, Mich.
S-M-S Corp., Detroit, Mich.
Tipaloy, Inc., Detroit, Mich.
Weldaloy Products Co., Van Dyke, Mich.

ELECTRODE HOLDERS, Resistance

Acme Electric Welder Co., Los Angeles, Calif.
American Electric Fusion Corp., Chicago, Ill.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Federal Machine & Welder Co., Warren, Ohio
General Scientific Equip. Co., Philadelphia, Pa.
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Industrial Prod. Co., Philadelphia, Pa.
Mallory, P. R., & Co., Inc., Indianapolis, Ind.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Peer, Inc., Benton Harbor, Mich.
S-M-S Corp., Detroit, Mich.
Swift Electric Welder Co., Detroit, Mich.
Thermex Equipment Co., Detroit, Mich.
Tipaloy, Inc., Detroit, Mich.
WW Alloys, Inc., Div. Fansteel Metallurgical Corp., Detroit, Mich.
Weldaloy Products Co., Van Dyke, Mich.
Weldex, Inc., Detroit, Mich.
Welding Sales & Engineering Co., Detroit, Mich.

ELECTRONIC CONTACTORS

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Clark Controller Co., The, Cleveland, Ohio
Eisler Engineering Co., Inc., Newark, N. J.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Peer, Inc., Benton Harbor, Mich.
Robotron Corp., Detroit, Mich.
Sciaky Bros., Chicago, Ill.
Square D Co., Milwaukee, Wis.
Weldaloy Products Co., Van Dyke, Mich.
Weltronic Co., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.

ELECTRONIC TUBES

Amperex Electronic Corp., Hicksville, N. Y.
Eisler Engineering Co., Inc., Newark, N. J.
Electrons, Inc., Newark, N. J.
Federal Telephone & Radio Corp., Clifton, N. J.
Ken-Rad Tube and Lamp Corp., Owensboro, Ky.
Machlett Laboratories, Inc., Springdale, Conn.
Martin Electric Div., Thompson Industries, Detroit, Mich.
National Electronics, Inc., Geneva, Ill.
Peer, Inc., Benton Harbor, Mich.
Radio Corp. of America, Tube Division, Harrison, N. J.
Raytheon Mfg. Co., Waltham, Mass.
Sylvania Electric Prods., Inc., Towanda, Pa.
Vangtronic Corp., The, Bridgeport, Conn.
Westinghouse Electric Corp., Pittsburgh, Pa.

ELECTRONIC CONTROLS, Resistance-Welding

(See also: "Resistance-Welding Controls," "Resistance-Welding Timers")

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Eisler Engineering Co., Inc., Newark, N. J.
Electrical Industries, Inc., Newark, N. J.
Electric Controller & Mfg. Co., The, Cleveland, Ohio
Federal Machine & Welder Co., Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
General Electric Co., Schenectady, N. Y.
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Hercules Elec. & Mfg. Co., Inc., Brooklyn, N. Y.
Martin Electric Div., Thompson Industries, Detroit, Mich.
National Time & Signal Corp., Detroit, Mich.
Peer, Inc., Benton Harbor, Mich.
Photovolt Corp., New York, N. Y.
Progressive Welder Co., Detroit, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Robotron Corp., Detroit, Mich.
Sciaky Bros., Chicago, Ill.
Square-D Co., Milwaukee, Wis.
Taylor-Winfield Corp., Warren, Ohio
Vangtronic Corp., The, Bridgeport, Conn.
Weldaloy Products Co., Van Dyke, Mich.
Weltronic Co., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.

FILES, Electrode-Tip-Dressing

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Mallory, P. R., & Co., Inc., Indianapolis, Ind.
S-M-S Corp., Detroit, Mich.
Tipaloy, Inc., Detroit, Mich.

FLASH TRIMMERS

Federal Machine & Welder Co., Warren, Ohio
Morton Mfg. Co., Muskegon Heights, Mich.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Whiting Corp., Harvey, Ill.

GUN RESISTANCE WELDERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Alphil Spot Welder Mfg. Co., Brooklyn, N. Y.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Aro Spot Welders, Long Island City, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Federal Machine & Welder Co., The, Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Link Welder Corp., Detroit, Mich.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Multi-Hydromatic Welding & Mfg. Co., East Detroit, Mich.
National Electric Welding Machine Co., Bay City, Mich.
Peer, Inc., Benton Harbor, Mich.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Progressive Welder Sales Co., Detroit, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Resistance Welder Corp., Detroit, Mich.
Rex Welder & Engineering Co., Kansas City, Mo.
Sciaky Bros., Inc., Chicago, Ill.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Universal Welder Corp., Cleveland, Ohio
Weldex, Inc., Detroit, Mich.

HYDRAULIC CYLINDERS

Acme Electric Welder Co., Los Angeles, Calif.
Banner Welder, Inc., Milwaukee, Wis.
Blackhawk Mfg. Co., Milwaukee, Wis.
Lindberg Engineering Co., Chicago, Ill.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Miller Fluid Power Co., Melrose Park, Ill.
Studebaker Machine Co., Maywood, Ill.
Swift Electric Welder Co., Detroit, Mich.

JUMPERS

(See: "Resistance Welding Cables")

MAGNETIC CONTACTORS

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Arrow-Hart & Hegeman Elec. Co., Hartford, Conn.
Clark Controller Co., The, Cleveland, Ohio
Cutler-Hammer, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Electric Controller & Mfg. Co., The, Cleveland, Ohio
Federal Electric Products Co., Newark, N. J.
General Electric Co., Schenectady, N. Y.
Graham Mfg. Corp., Ferndale, Mich.
Peer, Inc., Benton Harbor, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Shrader, F. W., Co., Culver City, Calif.
Square D Co., Milwaukee, Wis.
Trumbull Electric Mfg. Co., The, Plainville, Conn.
Vickers Electric Div., St. Louis, Mo.
Weltronic Co., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.

MULTIPLE SPOT WELDERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Agnew Electric Co., Milford, Mich.
Alphil Spot Welder Mfg. Co., Brooklyn, N. Y.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Dalthart Eng. & Mfg. Co., Inc., Van Dyke, Mich.
Eisler Engineering Co., Inc., Newark, N. J.
Expert Welding Mach. Co., Detroit, Mich.
Federal Machine & Welder Co., The, Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
Goodrich Welding Equipment Corp., Hudsonville, Mich.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Link Welder Corp., Detroit, Mich.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Metron Instrument Co., Denver, Colo.
Multi-Hydromatic Welding & Mfg. Co., East Detroit, Mich.
National Elec. Welding Mach. Co., Bay City, Mich.
Peer, Inc., Benton Harbor, Mich.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Primeweld Corp., Detroit, Mich.
Progressive Welder Sales Co., Detroit, Mich.
Resistance Welder Corp., Bay City, Mich.
Rex Welder & Engineering Co., Kansas City, Mo.
Sciaky Bros., Chicago, Ill.
Sterling Utilities Co., Inc., Brooklyn, N. Y.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
United Welder Corp., Detroit, Mich.
Universal Welder Corp., Cleveland, Ohio
Weldex, Inc., Detroit, Mich.
Welding Machines Mfg. Co., Detroit, Mich.

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FORGINGS & CASTINGS IN SPECIAL ALLOYS

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For high production usage where cap type electrodes are applicable, Mallory supplies tapered shanks with caps that can be replaced in seconds. A variety of cap shapes is available. Two different designs offer either a shouldered shank or shouldered cap as desired.

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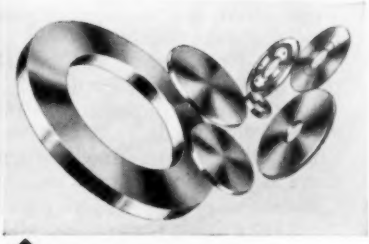
Hundreds of shapes and sizes are available from stock. Single-bend, double-bend, offset and many irregular shapes for "special" uses are standard Mallory designs, readily produced with existing tools. Exclusive fluted cooling hole gives 70% more cooling area . . . longer electrode life . . . at no extra cost.



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Two lines are available. For highest physicals, wheels are cold forged by exclusive Mallory methods, to give long life between dressings, top strength welds. For less exacting work, a series of seam welding wheels is available produced without the cold forging operation . . . at correspondingly lower price. Both types are supplied as forged or finish machined.

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Resistance Welding Dos and Don'ts*

DOs

1. Use the proper electrode material for the job you are doing.
2. Use standard electrodes wherever possible.
3. Use the most suitable tip diameter for the thickness of the stock being welded.
4. Connect the water inlet hose to the proper holder inlet so that water flows through the center cooling tube first.
5. Cool spot-welding tips internally with cool water flowing at a rate of at least 1½ gal per minute through each tip.
6. Be sure that the internal water-cooling tube of the holder projects into the tip water hole to within ½ in. of the tip-hole bottom.
7. Be sure that the top of the adjustable water-cooling tube in the holder is cut at any angle to avoid jamming the tip down and shutting off the water.
8. Place a thin film of cup grease on the tip taper prior to inserting it in the holder. This will make it easier to remove.
9. Use ejector-type holders for easy removal of tips and to avoid damage to tip walls.
10. Keep the tip taper and holder taper clean, smooth and free from foreign deposits.
11. Dress spot-welding electrodes often enough to maintain weld quality.
12. Dress electrodes to their original contour in a lathe whenever possible.
13. Clean and tighten regularly all electrical connections in the secondary circuit.
14. Keep the welder throat area to the minimum permissible dimensions.
15. Lubricate the resistance welder's motor, gears and slides at periodic intervals.
16. Calibrate all pressure-applying mechanisms so that the exact welding pressure can always be known.
17. Clean—either chemically or mechanically—all material to be welded that has dirty, scaly, oxidized or otherwise contaminated surfaces.
18. Use suitable automatic current-timing devices.
19. Have all timing devices suitably calibrated.
20. Use synchronous electronic timing controls for short timing periods or in the welding of materials having critical weldability.
21. Mount timing devices rigidly to protect them from vibration or abuse and mount them for ready servicing.
22. Use synchronous controls, providing interrupted timing periods, in all seam-welding applications.
23. Use electronic or magnetic welding contactors developed specifically for welding applications.
24. When using an ignitron control with a welder drawing less than 40 amperes from the line, provide a load resistor across the primary so that the current does not fall below 40 amperes.
25. Keep all electrical contacts in relays, switches and contactors in good condition by frequent inspection and dressing or replacement if necessary.

DON'Ts

1. Never use unidentified electrodes or electrode materials.
2. Avoid special, offset or irregular tips when the job can be done with a standard straight tip.
3. Don't use small tips on heavy-gauge welding jobs, or large tips on small work.
4. Never use water hose that will not fit the holder water-connection nipples snugly.
5. Do not allow water connections to become leaky, clogged or broken.
6. Avoid using holders with leaking or deformed tapers.
7. Do not permit the adjustable water tube to be "frozen" by an accumulation of deposits. A few drops of oil periodically will keep the tube free.
8. Do not allow electrodes to remain idle for extended periods in tapered holder seats.
9. Don't use pipe wrenches or similar tools to remove electrodes.
10. Avoid the use of white lead or similar compounds to seal a leaking taper.
11. Never permit a spot-welding tip to mushroom enough to make dressing difficult.
12. Never dress electrodes with a coarse file.
13. Don't permit flash particles to accumulate on the welding transformer.
14. Do not use a long welder arm extension or a wide arm separation unless the shape of the parts to be welded necessitates it.
15. Shun lubricants which are not recommended by the welder manufacturer.
16. Never permit sliding pressure members to become too tight or jammed since this will increase the frictional forces and inertia of the moving members.
17. Never weld unclean metals, scaly stock or metals with poor surface condition.
18. Avoid the use of slow-operating magnetic contactors if you are doing precision work.
19. Do not employ non-synchronous timing devices for welding materials with critical welding characteristics—*i.e.*, aluminum, magnesium and brass.
20. Avoid expensive synchronous timing devices for long timing, non-critical applications.
21. Don't use welding contactors or ignitron controls of capacity not within the rating of the welding machine and duty cycle of the application.
22. Never operate a synchronous ignitron control with the secondary of the welder open circuited.
23. Never use non-synchronous timing devices for short timing (less than 4 or 5 cycles).
24. Don't expect the timer to operate satisfactorily if the limit relay or switch in the timer-welder circuit chatters, or the contacts are oxidized or pitted.
25. Do not expect the timer to provide uniform timing pulses if the primary voltage regulation is poor. Ascertain timer manufacturer's recommended limits of voltage variation.

* From "Resistance Welding Data Book" published by P. R. Mallory & Co., Inc., Indianapolis, Ind.

PORTABLE RESISTOR UNITS

Eisler Engineering Co., Inc., Newark, N. J.
Mullenbach Div., Los Angeles, Calif.
Ohmite Mfg. Co., Chicago, Ill.
Stevens, C. H., & Co., Cornwall Bridge, Conn.

PORTABLE SPOT WELDERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Ampower Prod. Co., Oak Lawn, Ill.
Aro Spot Welders, Div. of Guthery Machine Tool Corp., Long Island City, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Birdsell Mfg. Co., Inc., Mountain View, Calif.
Eisler Engineering Co., Inc., Newark, N. J.
Federal Machine and Welder Co., Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
Gaston Power Tools, Inc., Harvey, Ill.
Greyhound A.C. Arc Welder Corp., Brooklyn, N. Y.
Karma Mfg. Co., Harvey, Ill.
Link Welder Corp., Detroit, Mich.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Mid-States Welder Mfg. Co., Chicago, Ill.
Miller Electric Mfg. Co., Appleton, Wis.
National Cylinder Gas Co., Chicago, Ill.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Progressive Welder Sales Co., Detroit, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Resistance Welder Corp., Bay City, Mich.
Rex Welder & Engineering Co., Kansas City, Mo.
Sciaky Bros., Inc., Chicago, Ill.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Unitek Corp., Pasadena, Calif.
Universal Welder Corp., Cleveland, Ohio
Welding Machines Mfg. Co., Detroit, Mich.
Welding Service & Supplies Co., Cicero, Ill.

PROJECTION WELDERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Agnew Electric Co., Milford, Mich.
Alphil Spot Welder Mfg. Co., Brooklyn, N. Y.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Dalhart Eng. & Mfg. Co., Van Dyke, Mich.
Eisler Engineering Co., Newark, N. J.
Expert Welding Machine Co., Detroit, Mich.
Federal Mach. & Welder Co., The, Warren, Ohio
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Link Welder Corp., Detroit, Mich.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Multi-Hydromatic Welding & Mfg. Co., East Detroit, Mich.
National Electric Welding Mach. Co., Bay City, Mich.
Peer, Inc., Benton Harbor, Mich.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Progressive Welder Sales Co., Detroit, Mich.
Resistance Welder Corp., Bay City, Mich.
Rex Welder and Engineering Co., Kansas City, Mo.
Sciaky Bros., Inc., Chicago, Ill.
Sterling Utilities Co., Inc., Brooklyn, N. Y.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
Topeka Foundry & Iron Works, Topeka, Kan.
Universal Welder Corp., Cleveland, Ohio
Weldex, Inc., Detroit, Mich.
Welding Machines Mfg. Co., Detroit, Mich.
Weldit, Inc., Detroit, Mich.

PROJECTION WELDING DIES

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
American Electric Fusion Corp., Chicago, Ill.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Banner Welder, Inc., Milwaukee, Wis.
Bunell Machine & Tool Co., Cleveland, Ohio
Eisler Engineering Co., Inc., Newark, N. J.
Electroloy Co., Inc., Bridgeport, Conn.
Federal Machine & Welder Co., Warren, Ohio
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Mallory, P. R., & Co., Inc., Indianapolis, Ind.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Peer, Inc., Benton Harbor, Mich.
Progressive Welder Sales Co., Detroit, Mich.
Resistance Welder Corp., Detroit, Mich.
Rex Welder & Engineering Co., Kansas City, Mo.
Sciaky Bros., Chicago, Ill.
S-M-S Corp., Detroit, Mich.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
Tipaloy, Inc., Detroit, Mich.
Universal Welder Corp., Cleveland, Ohio
WW Alloys, Inc., Div. of Fansteel Metallurgical Corp., Detroit, Mich.
Welding Sales & Engineering Co., Detroit, Mich.

REFRIGERATION UNITS

(Resistance Welder)

Airtemp Div., Chrysler Corp., Dayton, Ohio
Banner Welder, Inc., Milwaukee, Wis.
Detroit Electronic Products Co., Detroit, Mich.
Expert Welding Machine Co., Detroit, Mich.
Frostrode Div. of Viking Products, Detroit, Mich.
Progressive Welder Sales Co., Detroit, Mich.
Temprite Products Corp., Detroit, Mich.
Universal Welder Corp., Cleveland, Ohio

RESISTANCE-BRAZING MACHINES

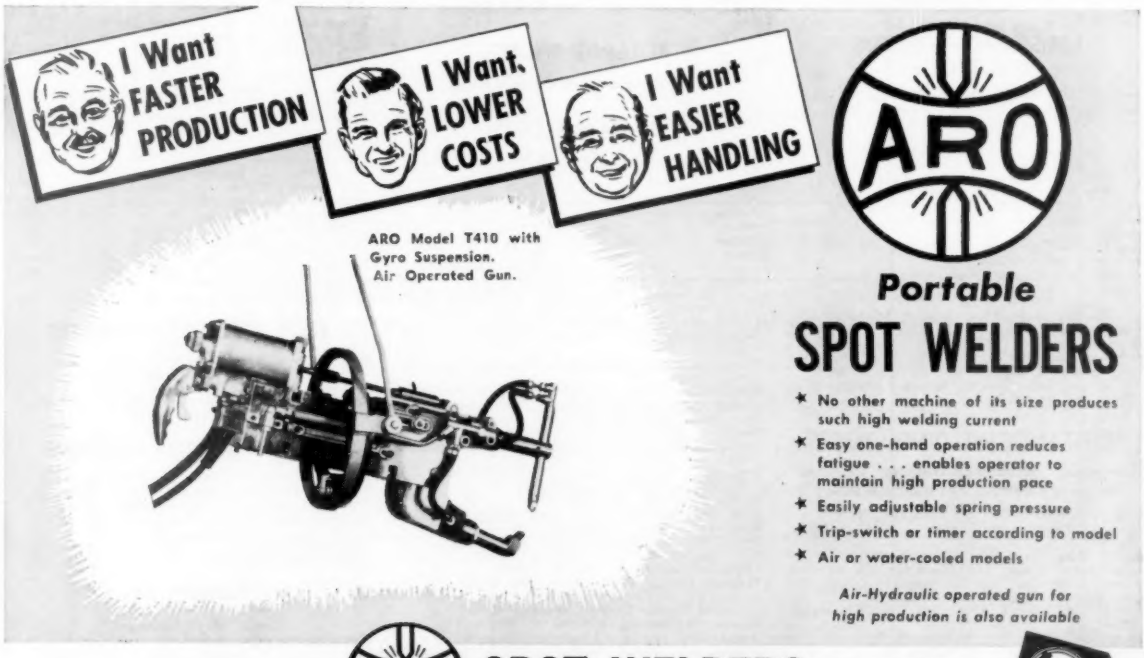
Acro Welder Mfg. Co., Milwaukee, Wis.
American Electric Fusion Corp., Chicago, Ill.
Banner Welder, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Eleectric Arc, Inc., Newark, N. J.
Federal Machine & Welder Co., Warren, Ohio
Goodrich Welding Equip. Corp., Hudsonville, Mich.
National Electric Welding Machines Co., Bay City, Mich.
Peer, Inc., Benton Harbor, Mich.
Precision Welder Mfg. Co., Chicago, Ill.
Progressive Welder Sales Co., Detroit, Mich.
Sciaky Bros., Inc., Chicago, Ill.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
Weldex, Inc., Detroit, Mich.

RESISTANCE WELDERS

(See: "Butt Welders," "Flash Welders," "Gun Welders," etc.)

RESISTANCE-WELDING CABLE

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Belden Mfg. Co., Chicago, Ill.
Burdett Oxygen Co., Cleveland, Ohio
Eisler Engineering Co., Inc., Newark, N. J.
Federal Machine and Welder Co., The, Warren, Ohio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General Cable Corp., New York, N. Y.
Hazard Insulated Wire Works, Div. of the Okonite Co., Wilkes-Barre, Pa.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Multi-Hydromatic Welding & Mfg. Co., E. Detroit, Mich.
Okonite Co., Passaic, N. J.
Peer, Inc., Benton Harbor, Mich.
Phelps Dodge Copper Products Corp., New York, N. Y.
Plastic Wire & Cable Corp., The, Jewitt City, Conn.
Precision Welder Mfg. Co., Chicago, Ill.
Progressive Welder Co., Detroit, Mich.
Rees, Mackworth, G., Detroit, Mich.
Roebling's Sons Co., John A., Trenton, N. J.
Rome Cable Corp., Rome, N. Y.
Sciaky Bros., Chicago, Ill.
Simplex Wire & Cable Co., Cambridge, Mass.
Trindl Products, Ltd., Chicago, Ill.
Uniflex Cable Co., Detroit, Mich.
Universal Welder Corp., Cleveland, Ohio
Welding Machines Mfg. Co., Detroit, Mich.
Western Insulated Wire Co., Los Angeles, Calif.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

RESISTANCE-WELDING CONTROLS

(See also "Electronic Controls, Resistance-Welding," "Resistance-Welding Timers")

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Central Sales Corp., The, Chicago, Ill.
Clark Controller Co., The, Cleveland, Ohio
Cramer, R. W., Co., Inc., The, Centerbrook, Conn.
Eisler Engineering Co., Inc., Newark, N. J.
Electrical Controller & Mfg. Co., The, Cleveland, Ohio
General Electric Co., Schenectady, N. Y.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Metron Instrument Co., Denver, Colo.
Mullenbach Div., Electric Machinery Mfg. Co., Los Angeles, Calif.
Peer, Inc., Benton Harbor, Mich.
Photoswitch, Inc., Cambridge, Mass.
Photovolt Corp., New York, N. Y.
Raytheon Mfg. Co., Waltham, Mass.
Robotron Corp., Detroit, Mich.
Sciaky Bros., Chicago, Ill.
Square D Co., Milwaukee, Wis.
Taylor-Winfield Corp., Warren, Ohio
Weldaloy Products Co., Van Dyke, Mich.
Weltronic Corp., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.

RESISTANCE-WELDING ELECTRODES

Acme Electric Welder Co., Los Angeles, Calif.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Beryllium Corp., Reading, Pa.
Eisler Engineering Co., Inc., Newark, N. J.
Electroloy Co., Inc., The, Bridgeport, Conn.
Federal Machine & Welder Co., Warren, Ohio
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Mallory, P. R., & Co., Inc., Indianapolis, Ind.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Ohio Carbon Co., Cleveland, Ohio
Peer, Inc., Benton Harbor, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Smith Bros., San Diego, Calif.
S-M-S Corp., Detroit, Mich.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Tipaloy, Inc., Detroit, Mich.
Weldaloy Products Co., Van Dyke, Mich.
Welding Sales & Engineering Co., Detroit, Mich.
WW Alloys, Inc., Div. of Fansteel Metallurgical Corp., Detroit, Mich.

RESISTANCE-WELDING TIMERS

(See also: "Resistance-Welding Controls," "Electronic Controls, Resistance-Welding")

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Automatic Temperature Control Co., Philadelphia, Pa.
Central Sales Corp., The, Chicago, Ill.
Clark Controller Co., The, Cleveland, Ohio
Cramer, R. W., Co., Inc., Centerbrook, Conn.
Eisler Engineering Co., Inc., Newark, N. J.
Electric Controller & Mfg. Co., The, Cleveland, Ohio
Electronic Controls, Inc., Newark, N. J.
Electronic Products Co., N. Aurora, Ill.
Federal Machine & Welder Co., Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
Hercules Elec. & Mfg. Co., Inc., Brooklyn, N. Y.
Industrial Timer Corp., Newark, N. J.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Metron Instrument Co., Denver, Colo.
Mullenbach Div., Los Angeles, Calif.
National Time & Signal Corp., Detroit, Mich.
Peer, Inc., Benton Harbor, Mich.
Photoswitch, Inc., Cambridge, Mass.
Photovolt Corp., New York, N. Y.
Potter Instrument Co., Long Island City, N. Y.
Raytheon Mfg. Co., Waltham, Mass.
Robotron Corp., Detroit, Mich.
Ripley Co., Inc., Middletown, Conn.
Sciaky Bros., Chicago, Ill.
Square D Co., Milwaukee, Wis.
Sterling Utilities Co., Inc., Brooklyn, N. Y.
Taylor-Winfield Corp., Warren, Ohio
Thermo Electric Mfg. Co., Dubuque, Iowa
Vangtronic Corp., The, Bridgeport, Conn.
Weltronic Co., Detroit, Mich.
Westinghouse Electric Corp, Pittsburgh, Pa.

RESISTANCE-WELDING TRANSFORMERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Agnew Electric Co., Milford, Mich.
American Electric Fusion Corp., Chicago, Ill.
American Transformer Co., Newark, N. J.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Birdsell Mfg. Co., Inc., Mountain View, Calif.
Detroit Electronic Products Co., Detroit, Mich.
Eisler Engineering Co., Inc., Newark, N. J.
Electric Arc, Inc., Newark, N. J.
Federal Machine & Welder Co., Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
Franklin Transformer Mfg. Co., Minneapolis, Minn.
General Electric Co., Schenectady, N. Y.
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Gulow Corp., The, New York, N. Y.
Hampton Electric Mfg. Co., Pittsburgh, Pa.
Hercules Electric & Mfg. Co., Inc., Brooklyn, N. Y.
Hevi Duty Electric Co., Milwaukee, Wis.
Link Welder Corp., Detroit, Mich.
Marcus Transformer Co., Inc., Hillside, N. J.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Peer, Inc., Benton Harbor, Mich.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Precision Welder Mfg. Co., Chicago, Ill.
Progressive Welder Sales Co., Detroit, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Resistance Welder Corp., Detroit, Mich.
Rex Welder & Engineering Co., Kansas City, Mo.
Sciaky Bros., Chicago, Ill.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
Universal Welder Corp., Cleveland, Ohio
Weldex, Inc., Detroit, Mich.
Welding Machines Mfg. Co., Detroit, Mich.

ROLLING SHUNTS

(See: "Resistance-Welding Cables")

SEAM WELDERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Agneew Electric Co., Milford, Mich.
Alphi Spot Welder Mfg. Co., Brooklyn, N. Y.
American Electric Fusion Corp., Chicago, Ill.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Delta Welder Corp., Detroit, Mich.
Expert Welding Machine Co., Detroit, Mich.
Federal Mach. & Welder Co., The, Warren, Ohio
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Link Welder Corp., Detroit, Mich.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Multi-Hydromatic Welding & Mfg. Co., East Detroit, Mich.
National Elec. Welding Mach. Co., Bay City, Mich.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peer, Inc., Benton Harbor, Mich.
Penn Tool & Machine Co., Danville, Ill.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Progressive Welder Sales Co., Detroit, Mich.
Resistance Welder Co., Bay City, Mich.
Sciaky Bros., Inc., Chicago, Ill.
Sight Feed Generator Co., West Alexandria, Ohio
Sterling Utilities Co., Brooklyn, N. Y.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
United Welder Corp., Detroit, Mich.
Universal Welder Corp., Cleveland, Ohio
Victory Engineering & Machine Works, Inc., St. Louis, Mo.
Weldex, Inc., Detroit, Mich.
Welding Machines Mfg. Co., Detroit, Mich.

SEAM WELDING WHEELS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Ampco Metal, Inc., Milwaukee, Wis.
Banner Welder, Inc., Milwaukee, Wis.
Electroloy Co., The, Inc., Bridgeport, Conn.
Mallory, P. R., & Co., Inc., Indianapolis, Ind.
Martin Electric Div., Thompson Industries, Detroit, Mich.
S-M-S Corp., Detroit, Mich.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Tipaloy, Inc., Detroit, Mich.
Thomson Electric Welder Co., Lynn, Mass.
Weldaloy Products Co., Van Dyke, Mich.
Welding Sales & Engineering Co., Detroit, Mich.
WW Alloys, Inc., Div. of Fansteel Metallurgical Corp., Detroit, Mich.

SHUNTS

("See: Resistance-Welding Cables"

SOLDERING UNITS, RW

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Eisler Engineering Co., Inc., Newark, N. J.
Ideal Industries, Inc., Sycamore, Ill.
Swift Electric Welder Co., Detroit, Mich.
Vemaline Products Co., Hawthorne, N. J.

SPOT WELDERS

Acme Electric Welder Co., Los Angeles, Calif.
Acro Welder Mfg. Co., Milwaukee, Wis.
Agnew Electric Co., Milford, Mich.
Alphi Spot Welder Mfg. Co., Brooklyn, N. Y.
American Elec. Fusion Corp., Chicago, Ill.
Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Ampower Products Co., Oak Lawn, Ill.
Aro Spot Welders, Long Island City, N. Y.
Banner Welder, Inc., Milwaukee, Wis.
Dalhart Eng. & Mfg. Co., Inc., Van Dyke, Mich.
Delta Welder Corp., Detroit, Mich.
Eisler Engineering Co., Inc., Newark, N. J.
Electric Welding Machine Co., Detroit, Mich.
Expert Welding Machine Co., Detroit, Mich.
Federal Machine & Welder Co., The, Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
Federal Tool Engineering, Inc., Newark, N. J.
Goodrich Welding Equip. Corp., Hudsonville, Mich.
Greyhound A. C. Arc Welder Corp., Brooklyn, N. Y.
Hercules Electric & Mfg. Co., Inc., Brooklyn, N. Y.
Larkin Welder & Machine Corp., Brooklyn, N. Y.
Link Welder Corp., Inc., Los Altos, Calif.
Martin Electric Div., Thompson Industries, Detroit, Mich.
Metron Instrument Co., Denver, Colo.
Micro Products Co., Chicago, Ill.
Miller Electric Mfg. Co., Inc., Appleton, Wis.
Multi-Hydromatic Welding & Mfg. Co., East Detroit, Mich.
National Electric Welding Mach. Co., Bay City, Mich.
Patent Specialties, Inc., Miami, Fla.
Peer, Inc., Benton Harbor, Mich.
Precision Welder & Flexopress Corp., Cincinnati, Ohio
Primeweld Corp., Detroit, Mich.
Progressive Welder Sales Co., Detroit, Mich.
Raytheon Mfg. Co., Waltham, Mass.
Resistance Welder Corp., Bay City, Mich.
Rex Welder and Engineering Co., Kansas City, Mo.
Sciaky Bros., Inc., Chicago, Ill.
Sterling Utilities Co., Brooklyn, N. Y.
Stryco Mfg. Co., San Francisco, Calif.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio
Thomson Electric Welder Co., Lynn, Mass.
United Welder Corp., Detroit, Mich.
Unitek Corp., Pasadena, Calif.
Universal Welder Corp., Cleveland, Ohio
Vangtronic Corp., The, Bridgeport, Conn.
Weldex, Inc., Detroit, Mich.
Welding Machines Mfg. Co., Detroit, Mich.

SPOT WELDER CONVERTER

Banner Welder, Inc., Milwaukee, Wis.
Expert Welding Mach. Co., Detroit, Mich.
Hoffman, Robt. W., Co., Inc., Chicago, Ill.
Rex Welder & Equipment Co., Kansas City, Mo.
Uniflex Cable Co., Detroit, Mich.

STORED ENERGY WELDERS

Federal Machine & Welder Co., Warren, Ohio
Federal Tool Engineering Co., Cedar Grove, N. J.
Kahle Engineering Co., North Bergen, N. J.
Raytheon Mfg. Co., Waltham, Mass.
Sciaky Bros., Inc., Chicago, Ill.
Taylor-Winfield Corp., Warren, Ohio
Unitek Corp., Pasadena, Calif.

TRIMMERS, Flash

(See: "Flash Trimmers")

TUBE MILLS

American Electric Fusion Corp., Chicago, Ill.
Cayuga Machine & Fabr. Co., Inc., Depew, N. Y.
McKay Machine Co., Youngstown, Ohio
Yoder Co., Cleveland, Ohio
Youngstown Foundry & Machine Co., Youngstown, Ohio

TUBES

(See "Electronic Tubes")

WROUGHT STAINLESS-STEEL FORMS AND WELDABILITY

		Available Forms					Weldability			Outstanding Characteristics
		Plate	Sheet	Strip	Bar	Wire	Arc	Gas	Resistance	
AUSTENITIC	301	X	X	X	X	X	B	B	A	General utility stainless; good working qualities.
	302	X	X	X	X	X	A	X	A	Readily fabricated.
	308	X	X	X	X	X	A	X	A	Used where better corrosion resistance than 18-8 is needed.
	309	X	X	X	X	X	B	X	A	High strength and high scaling resistance at high temperatures.
	310	X	X	X	X	X	A	X	A	Higher nickel content for greater stability at welding temperatures.
	316	X	X	X	X	X	A	B	A	Superior resistance to chemical corrosion.
	317	X	X	X	X	X	A	B	A	Higher alloy content than 316 for better corrosion resistance.
	321	X	X	X	X	X	A	B	A	Titanium-stabilized to prevent carbide precipitation when heated.
	347	X	X	X	X	X	A	B	A	Columbium-stabilized to prevent carbide precipitation.
MARTENSITIC	403	X	X	–	X	X	B	B	B	Low chromium content.
	410	X	X	X	X	X	B	X	B	General-purpose, heat-treatable stainless. Low cost.
	414	X	X	X	X	X	B	X	B	Nickel added for toughness.
	416	–	–	–	X	X	N.A.	X	N.A.	Free-machining, 12% chromium.
	420	–	X	–	X	X	B	X	B	Carbon provides hardness.
	431	X	X	X	X	X	B	B	B	High mechanical properties.
	440A	–	–	–	X	X	No	X	N.A.	Highest hardness of all stainless steels.
	440B	–	–	–	X	X	No	X	N.A.	Best combination of properties of 440 grades.
	440C	–	–	–	X	X	No	X	N.A.	Least tough of 440 grades but highest abrasion resistance.
	501	X	X	X	X	X	B	X	B	Corrosion resistance rather than stainless; good strength at high temperatures.
	502	X	X	X	X	X	B	X	B	
FERRITIC	405	X	X	X	X	X	B	X	B	Non-hardening when air cooled from high temperatures.
	406	–	–	–	X	X	B	X	B	For electrical resistance. Resists high-temperature oxidation.
	430	X	X	X	X	X	B	X	B	An easily formed stainless. Low cost.
	430F	–	–	–	X	X	B	X	B	Free-machining variety 430 grade.
	446	X	X	X	X	X	B	X	B	Best scaling resistance and highest chromium content.

A – readily weldable. B – weldable under favorable conditions. X – weldable by gas process in 20 ga. or thinner
N.A. – No welding information available.

Properties of Metals

Metal or Alloy	Wt/cu ft	Specific Gravity	Melting Point F	Yield Strength	Tensile Strength	Elongation	Brinell Hardness	Modulus of Elasticity 10^6 psi	Thermal Conductivity Btu/sq ft hr/°F/in.	Electrical Conductivity %Copper	Electrical Resistivity Ohms/cmf	Coefficient of Expansion °F x 10^{-6}
Aluminum, 99%	165	2.72	1220	5,000	13,000	35	23	10.2	1570	59.0	17.6	13.8
Antimony	417	6.67	1166				30	11.2		4.0		6.7
Arsenic	367	5.72	1497							4.5		2.14
Bismuth	612	9.8	520				9	4.6		1.3	670	7.47
Brass, Yellow	535	8.6	1660	18,000	40,000	60	60	14.0		26.0	40	
Bronze, Aluminum	481	7.7	1905	30,000	76,000	55	125	15	173	15.0	80	16.5
Bronze, Manganese	522	8.38	1598	25,000	60,000	30	100	15	700	25.0	42	11.7
Bronze, Tobin	535	8.6	1625	24,000	54,000	40	100	15	810	25.0	42	11.9
Cadmium	540	8.64	1610		9,200	20	20	7.1		34.0		16.6
Chromium	419	6.7	2740				350			55.0		4.5
Cobalt	550	8.8	2700		35,000		125			16.0		12.4
Copper	557	8.93	1981	10,000	32,000	40	30	15.8	2680	100.0	10.4	9.8
Everdur	534	8.57	1866	20,000	55,000	50	95	15.0				9.6
Gold	1204	19.3	1945		17,000	45	25	13	2000	71.0	14.6	7.8
Inconel	534	8.57	2540	35,000	85,000	45	150	30	420	7.8	100	7.2
Iron, Cast	450	7.22	2300		25,000	0.5	180	13	310	2.9	400	6.0
Iron, Malleable	462	7.42	2300	37,500	57,000	22	110	12.5				6.6
Iron, Pure	490	7.86	2795	19,000	38,000	45	67	30.1	470	17.5	57	6.8
Iron, Wrought	480	7.76	2750	27,000	40,000	14*	97 to 105	29.0	418	15.0	87	6.7
Lead, Chemical	710	11.4	620	1,900	2,500	50	5	2	240	8.0	124	16.4
Lead, Tellurium	707	11.34	620	2,200	3,000	45	6	2	240	8.0	124	16.4
Magnesium, 99%	108	1.74	1240	13,000	25,000	4	40	6.5	1090	37.0	27	14.3
Manganese	475	7.3	2246		130,000	60	200			35.0	29	12.8
Molybdenum	651	10.3	4532	100,000	140,000		147	50.2		35.0	29	3.1
Monel	551	8.84	2400	35,000	75,000	40	125	26	180	3.6	290	7.8
Nichrome	517	8.19	2460	50,000	70,000	5	170		135	1.5	675	13.7
Nickel, 99%	556	8.91	2650	8,500	46,000	28	85	30	575	18.8	57	7.4
Nickel Silver 18	546	8.75	2030	20,000	58,000	40	90	18.5	230	8.3	17.5	10
Platinum	1330	21.4	3218	10,000	24,000	24	25	24	480	15.0	64	4.9
Silicon	147	2.34	2588					16.5		1.6	650	3.5
Silver	655	10.5	1762	8,000	23,000	50	30	10.5	2900	106.0	9.6	10.6
Steel, 0.15C	490	7.85	2700	40,000	60,000	35	130	30.0	460	14.5	72.0	6.7
Steel, 0.30C	490	7.85	2600	52,000	84,000	24	170	30.0	460	14.5	72.0	6.7
Steel, 0.50C	490	7.83	2500	72,000	98,000	26	201	30.0	460	14.5	72.0	6.7
Steel, Manganese	495	7.93	2450	75,000	118,000	22	300	29.0				6.7
Steel, Nickel (2330)	490	7.85	2600	84,000	105,000	25	217	30.0				6.7
Steel, Cast	490	7.85	2600	40,000	72,000	26	140	30.0	400	16	60	6.7
Steel, Stainless (304)	495	7.93	2550	35,000	85,000	55	160	29.0		2.0	460	9.3
Tin (Cast)	458	7.28	450	1,710	3,130	70	5.9	7.1	455	13.5	69	11.7
Titanium	281	4.5	3270				230	12.1				4.0
Tungsten	1191	19.1	6152		500,000			51		31.0	33.1	2.2
Vanadium	380	6.0	3182									5.6
Zinc	447	7.14	786		20,000	60	35	18.5		30.0	34	18.0

* Elongation in 8 in.

MATERIALS

LAST year, the 800 category was entitled "Miscellaneous welding items." At that time, we wrote that this group would "undoubtedly lead to confusion." However, the confusion lasted only a short time.

To its credit, the NWSA changed the 800 series, combining the "miscellaneous" heading with its 1000 group—"Non-welding items" (which the Fact File last year, and again this year, calls "Industrial equipment").

The materials now listed in this, the 800 series, were grouped last year by the Fact File under an extra heading—the 1100 group—because no provision had been made by NWSA in its first index.

Although few welding-supply distributors sell basic materials used in welding, their sources of supply is of interest to readers of WELDING ENGINEER. Hence, we have included all pertinent *metals* in their alphabetical order.

However, as we wrote last year . . . it will not be too long before the Fact File Issue will have to include data on weldable plastics, glass . . . maybe even wood in the more distant future.

The NWSA lists only two subheadings in this group:

810 Agriculture

820 Applicator bars and plates

ALUMINUM—Granulated, Ingots and Solder, Etc.

Allen, L. B., Co., Inc., Chicago, Ill.
Aluminum Company of America, Pittsburgh, Pa.
American Smelting & Ref. Co., New York, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Federated Metals Div., Amer. Smelting & Refining Co., N. Y., N. Y.
Flux-All Chemical Products, New York, N. Y.
Johnson Mfg. Co., Inc., Mount Vernon, Iowa
Kester Solder Co., Chicago, Ill. (Solder)
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Reynolds Metals Co., Louisville, Ky.
Sall, George, Metals Co., Philadelphia, Pa.
Sightmaster Corp., New Rochelle, New York
Swiss Laboratory, Cleveland, Ohio

ALUMINUM, Sheet and Plates, Clad

Aluminum Co. of America, Pittsburgh, Pa.
American Silver Co., Inc., Flushing, N. Y.
Colonial Alloys Co., Philadelphia, Pa.
Kaiser Aluminum & Chemical Sales, Inc., Oakland, Calif.
Reynolds Metal Co., Richmond, Va.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

ALUMINUM, Sheets, Plates, Structural Shapes, Extrusions, Etc.

Aluminum Co. of America, Pittsburgh, Pa.
Aluminum Wire Prod. Co., Inc., Glastonbury, Conn.
Bissett Steel Co., The, Cleveland, Ohio
Blum, Julius & Co., Inc., New York, N. Y.
Bridgeport Brass Co., Bridgeport, Conn.
Braun, J. G., Co., Chicago, Ill.
Bridgeport Brass Co., Bridgeport, Conn.
Central Steel and Wire Co., Chicago, Ill.
Colonial Alloys Co., Philadelphia, Pa.
Kaiser Aluminum & Chemical Sales, Oakland, Calif.
Revere Copper & Brass, Inc., New York, N. Y.
Reynolds Metals Co., Louisville, Ky.
Titan Metal Mfg. Co., Bellefonte, Pa.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

ALUMINUM TUBING

Aluminum Co. of America, Pittsburgh, Pa.
American Brass Co., Waterbury, Conn.
Bissett Steel Co., The, Cleveland, Ohio
Blum, Julius & Co., Inc., New York, N. Y.
Braun, J. G., Co., Chicago, Ill.
Bridgeport Brass Co., Bridgeport, Conn.
Colonial Alloys Co., Philadelphia, Pa.
Flexonics Corp., Maywood, Ill.
Revere Copper & Brass, Inc., New York, N. Y.
Reynolds Metals Co., Louisville, Ky.
United Wire & Supply Corp., Providence, R. I.

APPLICATOR BARS

(See "Industrial Equipment," p. 76)

BABBITT METAL

Alpha Metals, Inc., Brooklyn, N. Y.
American Smelting & Ref. Co., New York, N. Y.
Anchor Metal Co., Inc., Brooklyn, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Bond, Charles Co., Philadelphia, Pa.
Bunting Brass & Bronze Co., The, Toledo, Ohio
Division Lead Co., Summit, Ill.
Dodge Manufacturing Corp., Mishawaka, Ind.
Eagle-Picher Co., The, Cincinnati Ohio
Gardiner Metal Co., Chicago, Ill.
Johnson Bronze Co., New Castle, Pa.
McCauley Alloy Co., Chicago Heights, Ill.
Magnolia Metal Co., Elizabeth, N. J.
National Lead Co., New York, N. Y.
Randall Graphite Bearings, Inc., Lima, Ohio
Ryerson, Joseph T., & Son, Inc., Chicago, Ill.
Shook Bronze Corp., Lima, Ohio

BRASS AND COPPER TUBING

American Brass Co., Waterbury, Conn.
Blum, Julius & Co., Inc., New York, N. Y.
Braun, J. G., Co., Chicago, Ill.
Bridgeport Brass Co., Bridgeport, Conn.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Flexonics Corp., Maywood, Ill.
Imperial Brass Mfg. Co., Chicago, Ill.
Mueller Brass Co., Port Huron, Mich.
Parker Appliance Co., Inc., The, Cleveland, Ohio
Phelps Dodge Copper Products Corp., New York, N. Y.
Revere Copper & Brass, Inc., New York, N. Y.
Scovill Mfg. Co., Waterbury, Conn.
United Wire & Supply Corp., Providence, R. I.

BRASS, Bars and Sheets

American Brass Co., Waterbury, Conn.
American Silver Co., Inc., Flushing, N. Y.
Braun, J. G., Co., Chicago, Ill.
Bridgeport Brass Co., Bridgeport, Conn.
Central Steel and Wire Co., Chicago, Ill.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Johnson Bronze Co., Newcastle, Pa.
Mueller Brass Co., Port Huron, Mich.
Phelps Dodge Copper Products Corp., New York, N. Y.
Revere Copper & Brass, Inc., New York, N. Y.
Scovill Mfg. Co., Waterbury, Conn.
Titan Metal Mfg. Co., Bellefonte, Pa.

BRONZE, Bars and Sheets, Rolled

American Brass Co., Waterbury, Conn.
American Silver Co., Inc., Flushing, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Anaconda Wire & Cable Co., New York, N. Y.
Bissett Steel Co., The, Cleveland, Ohio
Bridgeport Brass Co., Bridgeport, Conn.
Bunting Brass & Bronze Co., Toledo, Ohio
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Johnson Bronze Co., New Castle, Pa.
Mallory, P. R. & Co., Inc., Indianapolis, Ind.
Phelps Dodge Copper Products Corp., New York, N. Y.
Phosphor Bronze Co., The, Seymour, Conn.
Revere Copper & Brass, Inc., New York, N. Y.
Scovill Mfg. Co., Waterbury, Conn.
Seymour Mfg. Co., The, Seymour, Conn.

BRONZE—Casting or Ingots—Aluminum, Manganese and Phosphor

American Smelting & Refining Co., Fed. Metals Div., New York, N. Y.
Ampco Metal, Inc., Milwaukee, Wis.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Phosphor Bronze Co., The, Seymour, Conn.
Turner Brass Works, The, Sycamore, Ill.

CLAD STEEL, Copper

American Silver Co., Inc., Flushing, N. Y.
Lukens Steel Co., Coatesville, Pa.
Makepeace, D. E., Attleboro, Mass.

CLAD STEEL, Inconel

American Silver Co., Inc., Flushing, N. Y.
Lukens Steel Co., Coatesville, Pa.

CLAD STEEL, Monel

American Nickeloid Co., Peru, Ill.
American Silver Co., Inc., Flushing, N. Y.
Lukens Steel Co., Coatesville, Pa.

CLAD STEEL, Nickel

American Nickeloid Co., Peru, Ill.
American Silver Co., Inc., Flushing, N. Y.
Lukens Steel Co., Coatesville, Pa.
kepublic Steel Corp., Cleveland, Ohio
Superior Steel Corp., Carnegie, Pa.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

CLAD STEEL, Silver

American Silver Co., Inc., Flushing, N. Y.
Handy & Harman, New York, N. Y.
Makepeace, D. E., Attleboro, Mass.
Sherman & Co., Flushing, N. Y.

CLAD STEEL, Stainless

Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
American Silver Co., Inc., Flushing, N. Y.
Castle, A. M., & Co., Chicago, Ill.
Crucible Steel Co. of America, New York, N. Y.
Granite City Steel Co., Granite City, Ill.
Ingersoll Steel Div., Borg-Warner Corp., Chicago, Ill.
Jessop Steel Co., Washington, Pa.
Lukens Steel Co., Coatesville, Pa.
Republic Steel Corp., Cleveland, Ohio
Ryerson, Joseph T. & Son, Inc., Chicago, Ill.
Sharon Steel Corp., Sharon, Pa.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.
Worth Steel Co., Claymont, Del.

COPPER, Bars and Sheets

American Brass Co., Waterbury, Conn.
American Silver Co., Inc., Flushing, N. Y.
Bissett Steel Co., The, Cleveland, Ohio
Bridgeport Brass Co., Bridgeport, Conn.
Central Steel & Wire Co., Chicago, Ill.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Electroloy Co., The, Inc., Bridgeport, Conn.
Mallory, P. R., & Co. Inc., Indianapolis, Ind.
Phelps Dodge Copper Products Corp., New York, N. Y.
Revere Copper & Brass, Inc., New York, N. Y.
Scovill Mfg. Co., Waterbury, Conn.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

INGOTS

(Refer to specific metal)

MANGANESE STEEL, 11-14%

Allied Tractor & Steel Prod. Corp., Cleveland, Ohio
American Manganese Steel Co., Chicago Heights, Ill.
Bethlehem Steel Co., Bethlehem, Pa.
Castle, A. M. & Co., Chicago, Ill.
Industrial Overlay Metals, Eaton, Ohio
Manganese Steel Forge Co., Philadelphia, Pa.
Ryerson, J. T., & Son, Inc., Chicago, Ill.
Standard Steel & Wire Co., Bolivar, Pa.
Stulz-Sickles Co., Newark, N. J.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

MAGNESIUM—Sheets, Plates, Bars, Etc.

American Magnesium Corp., Pittsburgh, Pa.
Brooks & Perkins, Inc., Detroit, Mich.
Dow Chemical Co., The, Midland, Mich.
Revere Copper & Brass, Inc., New York, N. Y.
White Metal Rolling & Stamping Corp., Brooklyn, N. Y.

NICKEL and NICKEL ALLOYS

American Silver Co., Inc., Flushing, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Hoskins Mfg. Co., Detroit, Mich.
International Nickel Co., Inc., New York, N. Y.
Revere Copper & Brass, Inc., New York, N. Y.
Superweld Corp., N. Hollywood, Calif.

NICKEL MANGANESE STEEL

Allied Tractor & Steel Prod. Corp., Cleveland, Ohio
Carnegie-Illinois Steel Corp., Div. U. S. Steel Corp., Pittsburgh, Pa.
Firth Sterling, Inc., Pittsburgh, Pa.

Fire Extinguisher Information

TYPE			FOAM	CHEMICAL SOLUTION SODA-ACID	ANTI-FREEZING		PUMP TYPE (Anti-freezing or plain water)	VAPORIZING LIQUID		CARBON DIOXIDE
METHOD OF OPERATING			INVERT	INVERT	INVERT	INVERT	PUMP	PUMP	PULL LEVER	OPEN VALVE
METHOD OF DISCHARGING EXTINGUISHING AGENT			CHEMICAL REACTION	CHEMICAL REACTION	CHEMICAL REACTION of capsule	GAS PRESSURE from carbon dioxide cylinder.	HAND PUMPING ACTION	PUMPING ACTION	STORED AIR PRESSURE	PRESSURE STORED IN CYLINDER
EFFECTIVE RANGE OF STREAM			35 TO 40 FEET	30 TO 40 FEET	30 TO 40 FEET	45 TO 55 FEET	30 TO 40 FEET	20 FEET OR MORE under full pump pressure	30 TO 40 FEET	6 TO 8 FEET under full pressure
RATED LIQUID CAPACITY OF MOST COMMON SIZE			2½ GALLONS	2½ GALLONS	2½ GALLONS	2½ GALLONS	5 GALLONS (also 2½ gallons)	1 QUART	1 GALLON	15 LBS.
QUANTITY OF PRINCIPAL EXTINGUISHING AGENT PRODUCED			18 TO 25 GALLONS	2½ GALLONS	2½ GALLONS	2½ GALLONS	5 GALLONS (also 2½ gallons)	Quantity variable — depends upon amount of liquid which comes in contact with heat of fire.	Quantity variable — depends upon amount of liquid which comes in contact with heat of fire.	Quantity variable — about 9 cu. ft. per pound of gas at normal temperature.
NATURE OF PRINCIPAL EXTINGUISHING AGENT			FIREFOAM a mass of bubbles filled with carbon dioxide gas.	LIQUID Soda Solution	LIQUID calcium chloride solution.	LIQUID calcium chloride solution.	LIQUID (plain water or calcium chloride solution).	FREE GAS produced when liquid is vaporized by heat of fire.	FREE GAS produced when liquid is vaporized by heat of fire.	CARBON DIOXIDE GAS AND SNOW
PRINCIPAL EXTINGUISHING EFFECT			BLANKETING	COOLING	COOLING	COOLING	COOLING	SMOTHERING	SMOTHERING	SMOTHERING
IT IS RECOGNIZED AS ADAPTED FOR USE ON	Class A Fires	Wood, Textiles, Rubbish, Etc.	YES BEST AVAILABLE for use in places involving Class "A" fires because of desirable characteristics not possessed by any other extinguishing agent (fireproofing effect; smaller wetting effect, etc.) Must be kept in heated cabinet when installed in places subject to freezing temperatures.	YES for use in places NOT involving oils, greases, etc., in any way. Must be kept in heated cabinet when installed in places subject to freezing temperatures.	YES for use in places NOT involving oils, greases, etc., in any way. DOES NOT REQUIRE PROTECTION AT TEMPERATURES DOWN TO 40 DEGREES F. BELOW ZERO	YES for use in places NOT involving oils, greases, etc., in any way. DOES NOT REQUIRE PROTECTION AT TEMPERATURES DOWN TO 40 DEGREES F BELOW ZERO	YES for use in places not involving oils, greases, etc. in any way. When Alico crystals are used, does not require protection at temperatures down to 40 degrees F. below zero.	NO Other types are better adapted to Class "A" fires. This type good only under most favorable conditions because of small size; difficulty of confining gas at seat of fire; force, range, and duration of stream not automatically assured; operator cannot devote entire attention to directing stream on fire.	NO Other types are better adapted to Class "A" fires. This type good only under most favorable conditions because of difficulty of confining gas at seat of fire.	NO Other types are better adapted to Class "A" fires. This type good only under most favorable conditions because of difficulty of confining gas at seat of fire, short range of stream. Not useful on overhead fires.
	Class B Fires	Gasoline, Oil, Greases, etc. Flammable Liquids Not Derived from Alcohols	YES BEST AVAILABLE for use in places involving Class "B" fires because of characteristics not possessed by any other type.	NO because it has practically no blanketing effect.	NO because it has practically no blanketing effect.	NO because it has practically no blanketing effect.	NO because it has practically no blanketing effect.	YES but foam type is better adapted to Class "B" fires. This type good only under most favorable conditions because of small size; difficulty of confining gas at seat of fire; force, range and duration of stream not automatically assured.	YES but foam type is better adapted to Class "B" fires. This type good only under most favorable conditions because of difficulty of confining gas at seat of fire.	YES especially so under freezing conditions. Ideal for running or dripping flammable liquid fires.
		Alcohol, Acetone, Ether, Flammable Liquids Kindred to Alcohol	NO	NO	NO	NO	NO	NO	NO	YES Excellent for incipient fires in flammable liquids kindred to Alcohols.
	Class C Fires	Electrical Machinery	NO unless fires have spread beyond the extinguishing capacity of vaporizing liquid or carbon dioxide extinguisher and where current is turned off. The stream is a conductor, but a poor one.	NO except where current is turned off. The stream is a conductor.	NO except where current is turned off. The stream is a conductor.	NO except where current is turned off. The stream is a conductor.	NO except where current is turned off. The stream is a conductor.	YES satisfactory where fires have not spread beyond extinguishing capacity of extinguisher and especially in places where current is not likely to be turned off, because stream is a non-conductor.	YES satisfactory where fires have not spread beyond extinguishing capacity of extinguisher and especially in places where current is not likely to be turned off, because stream is a non-conductor.	YES Stream is a non-conductor, has no wetting, no solvent effect and leaves no residue.
	* Class D Fires	Pleasure Automobiles Commercial Trucks Etc.	NO Unless of special splash-proof construction. Must not be exposed to freezing temperature. Not suitable for pleasure automobiles because of size.	NO has practically no blanketing effect — not splash-proof, subject to freezing. Not suitable for pleasure automobiles because of size.	NO not splash-proof — has no blanketing effect.	NO not splash-proof — has no blanketing effect.	NO because of size; not splash-proof; has no blanketing effect.	YES BEST AVAILABLE for Class "D" fires, because it has smothering effect and is not subject to freezing. On account of its size it can be used on pleasure automobiles.	YES because it has a smothering effect and is not subject to freezing. On account of its size it cannot be used on pleasure automobiles.	YES because it has a smothering effect and is not subject to freezing.
	* Class D-t Fires	Tank-Trucks Trailer-Tractors	YES If of splash-proof construction. Must not be exposed to freezing temperature.	NO not splash-proof — has no blanketing effect.	NO not splash-proof — has no blanketing effect.	NO not splash-proof — has no blanketing effect.	NO has no blanketing effect.	YES because it has a smothering effect and is not subject to freezing.	YES because it has a smothering effect and is not subject to freezing.	YES because it has a smothering effect and is not subject to freezing.
UNDERWRITERS' RATING			A1-B1	A1	A1	A1	A1 (either size)	B2—C2	B2—C1	B1—C1

* The letters "D" and D-t are for convenience, no letter having been assigned to this class by Underwriters' Laboratories.

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Industrial Overlay Metals, Eaton, Ohio
Manganese Steel Forge Co., Philadelphia, Pa.
Republic Steel Corp., Cleveland, Ohio
Ryerson, J. T., & Son, Inc., Chicago, Ill.
Stulz-Sickles Co., Newark, N. J.

PLATES, Steel

(See: "STEEL, Sheets, Plates, Bars, and Structural Shapes, Etc.")

STAINLESS STEEL

Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
American Chain & Cable, Monessen, Pa.
American Silver Co., Inc., Flushing, N. Y.
American Steel & Wire Co., Cleveland, Ohio
Armco Steel Corp., Middletown, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Bissett Steel Co., The, Cleveland, Ohio
Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Carpenter Steel Co., The, Reading, Pa.
Castle, A. M., & Co., Chicago, Ill.
Central Steel & Wire Co., Chicago, Ill.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Crucible Steel Co. of America, Pittsburgh, Pa.
Disston, Henry & Sons, Inc., Tacony, Philadelphia, Pa.
Eastern Stainless Steel Corp., Baltimore, Md.
Firth Sterling, Inc., Pittsburgh, Pa.
Ingersoll Steel Div., Borg-Warner Corp., Chicago, Ill.
Jessop Steel Co., Washington, Pa.
Lukens Steel Co., Coatesville, Pa.
Manganese Steel Forge Co., Philadelphia, Pa.
Republic Steel Corp., Cleveland, Ohio
Rustless Iron and Steel Corp., Baltimore, Md.
Ryerson, Joseph T. & Son, Inc., Chicago, Ill.
Sharon Steel Corp., Sharon, Pa.
Superior Steel Corp., Carnegie, Pa.
Timken Roller Bearing Co., Canton, Ohio
United States Steel Co., Pittsburgh, Pa.
U. S. Steel Supply Co., Chicago, Ill.
Washington Steel Corp., Washington, Pa.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.

STEEL (SHEETS, PLATES, BARS, STRUCTURAL SHAPES, Etc.)

American Chain & Cable, Monessen, Pa.
American Manganese Steel Co., Chicago Heights, Ill.
Apollo Steel Co., Pittsburgh, Pa.
Armco Steel Corp., Middletown, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Castle, A. M., & Co., Chicago, Ill.
Central Steel & Wire Co., Chicago, Ill.
Columbia Steel Co., San Francisco, Calif.
Disston, Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
Firth Sterling, Inc., Pittsburgh, Pa.
Great Lakes Steel Corp., Detroit, Mich.
Granite City Steel Co., Granite City, Ill.
Heller Brothers Co., Newark, N. J.
Ingersoll Steel Div., Borg-Warner Corp., Chicago, Ill.
Inland Steel Co., Chicago, Ill.
National Steel Corp., Ecorse, Detroit, Mich.
Reliance Steel Div., Detroit Steel Corp., Cleveland, Ohio
Republic Steel Corp., Cleveland, Ohio
Roebling's Sons Co., John A., Trenton, N. J.
Rustless Iron & Steel Corp., Baltimore, Md.
Ryerson, Joseph T., & Son, Inc., Chicago, Ill.
Sharon Steel Corp., Sharon, Pa.
Taylor-Wharton Iron & Steel Co., High Ridge, N. J.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
U. S. Steel Supply Co., Chicago, Ill.
United States Steel Co., Pittsburgh, Pa.
Wickwire Spencer Steel Div., Colorado Fuel & Iron Corp., New York, N. Y.
Worth Steel Co., Claymont, Del.
Wyckoff Steel Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, Ohio

STEEL TUBING

American Metal Products Co., Detroit, Mich.
Armco Steel, Inc., Middletown, Ohio
Babcock & Wilcox Tube Co., The, Alliance, Ohio (welded) and Beaver Falls, Pa. (seamless).
Bethlehem Steel Co., Bethlehem, Pa.
Bissett Steel Co., The, Cleveland, Ohio
Blum, Julius & Co., Inc., New York, N. Y.
Bundy Tubing Co., Detroit, Mich.
Byers Co., A. M., Pittsburgh, Pa.
Carpenter Steel Co., The, Reading, Pa.
Central Steel and Wire Co., Chicago, Ill.
Crucible Steel Co. of America, Pittsburgh, Pa.
Flexonics Corp., Maywood, Ill.
Globe Steel Tubes Co., Milwaukee, Wis.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Michigan Steel Tube Products Co., Detroit, Mich.
National Electric Products Corp., Pittsburgh, Pa.
National Tube Co., Div., U. S. Steel Corp., Pittsburgh, Pa.
Ohio Seamless Tube Co., The, Shelby, Ohio
Pittsburgh Steel Co., Pittsburgh, Pa.
Republic Steel Corp., Cleveland, Ohio
Revere Copper & Brass, Inc., New York, N. Y.
Ryerson, Joseph T. & Sons, Inc., Chicago, Ill.

Safety and Medical Equipment

SAFETY being as important as it it, one entire classification has been devoted by NWSA to listings of such equipment.

The items listed in the 900 series not only include protective equipment worn by weldors, but also equipment for providing fire protection where welding operations are carried on.

Here again Fact File presents this equipment alphabetically, while the NWSA divides them into the following sub-headings:

910 Protective clothing
920 Gloves
930 Eye, face and head
940 Fire protection
950 First aid
960 Medical therapy
980 Miscellaneous

Sightmaster Corp., New Rochelle, N. Y.
Standard Tube Co., The, Detroit, Mich.
Superior Tube Co., Norristown, Pa.
Superior Steel Corp., Chicago, Ill.
Trent Tube Co., Div. of Crucible Steel Co., East Troy, Wis. (stainless and inconel only).
Timken Roller Bearing Co., Steel and Tube Div., Canton, Ohio
Tubular Alloy Steel Corp., Gary, Ind.
Tubular Service Corp., New York, N. Y.
Uniworld Research Corp. of America, Cleveland, Ohio
U. S. Steel Supply Co., Chicago, Ill.
Youngstown Sheet & Tube Co., The, Youngstown, Ohio
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

STEEL WIRE

American Steel & Wire Co., Cleveland, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Bissett Steel Co., The, Cleveland, Ohio
Buffalo Bolt Co., North Tonawanda, N. Y.
Carnegie-Illinois Steel Corp., Div. of U. S. Steel Corp., Pittsburgh, Pa.
Carpenter Steel Co., The, Reading, Pa.
Colorado Fuel and Iron Corp., Denver, Colo.
Columbia Steel Co., United States Steel Corp., Subsidiary, San Francisco, Calif.
Drawalloy Corp., York, Pa.
Firth Sterling, Inc., Pittsburgh, Pa.
Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
Page Steel & Wire Div. American Chain & Cable Co., Inc., Monessen, Pa.
Republic Steel Corp., Cleveland, Ohio
Roebling's, John A., Sons, Co., Trenton, N. J.
Sight Feed Generator Co., West Alexandria, Ohio
Truscon Steel Co., Youngstown, Ohio
United States Steel Co., Pittsburgh, Pa.
Weldit, Inc., Detroit, Mich.
Wheeling Steel Corp., Wheeling, W. Va.
Wickwire Spencer Steel Division, The Colorado Fuel & Iron Corp., Buffalo, N. Y.
Youngstown Sheet and Tube Co., Youngstown, Ohio

TITANIUM

American Silver Co., Inc., Flushing, N. Y.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Cramet, Inc., Chicago, Ill.
Electro Metallurgical Div., Union Carbide and Carbon Corp., Niagara Falls, N. Y.
Mallory, P. R., & Co. Inc., Indianapolis, Ind.
Rem-Cru Titanium, Inc., Midland, Pa.
Republic Steel Corp., Cleveland, Ohio
Titanium Alloy Mfg. Div., National Lead Co., New York, N. Y.
Titanium Metals Corp. of America, New York, N. Y.

ZINC SHEETS and BARS

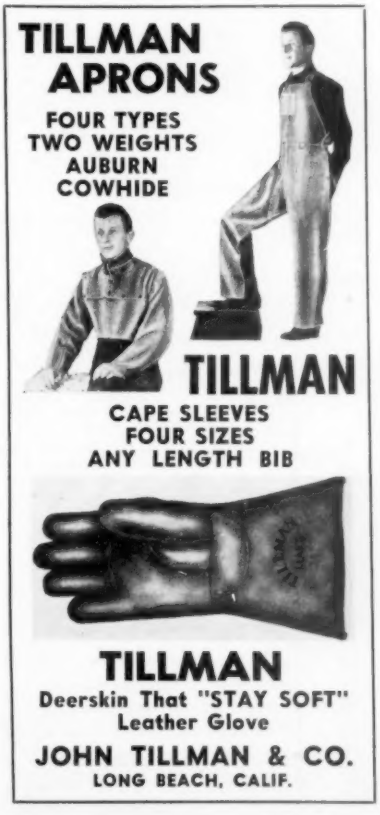
American Zinc Products Co., The, Greencastle, Ind.
Belmont Smelting & Ref. Works, Inc., Brooklyn, N. Y.
Cleveland Precision Ring Prod. Co., The, Cleveland, Ohio
Consolidated Metals Corp., Detroit, Mich.
Eagle-Picher Sales Co., The, Cincinnati, Ohio
New Jersey Zinc Co., The, New York, N. Y.

ANTI-FOG COMPOUNDS

Allen Optical Co., Buffalo, N. Y.
American Optical Co., Southbridge, Mass.
Bausch & Lomb Optical Co., Rochester, N. Y.
Carhoff Co., Cleveland, Ohio
Industrial Products Co., Philadelphia, Pa.
Master Co., Los Angeles, Calif.
McDonald, B. F., Co., Los Angeles, Calif.
Merix Chemical Co., Chicago, Ill.
Miuburn Co., Detroit, Mich.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
United States Safety Service Co., Kansas City, Mo.

APRONS, Asbestos, Fire Resistant Duck & Leather

A & A Mfg. Co., Milwaukee, Wis.
Advance Glove Mfg. Co., Detroit, Mich.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co. Southbridge, Mass.
Bond, Charles, Co., Philadelphia, Pa.
Boyer-Campbell Co., The, Detroit, Mich.
Chicago Eye Shield Co., Chicago, Ill.
Chicago Rawhide Mfg. Co., The, Chicago, Ill.
Daniels, C. R., Inc., 75 West St., New York, N. Y.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Elliott Glove Co., Inc., Oconto, Wis.
Fibre Metal Prod. Co., Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equipment Co., Philadelphia, Pa.
Genter, C. D., Co., Chattanooga, Tenn.
Greene, Tweed & Co., North Wales, Pa.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Produtcs, Co., Philadephia, Pa.
Janos Asbestos Co., Philadelphia, Pa.



Allowable Working Pressure on Welded Flat Tank Heads

By ELMER JOHNSON

Min $t_1 = 1.25\ t_s$

ASME formula

$$t_h = D\sqrt{\frac{.50 \times P}{11{,}000}}$$

Where:

t_h = Thickness of head

D = Diam of tank in inches

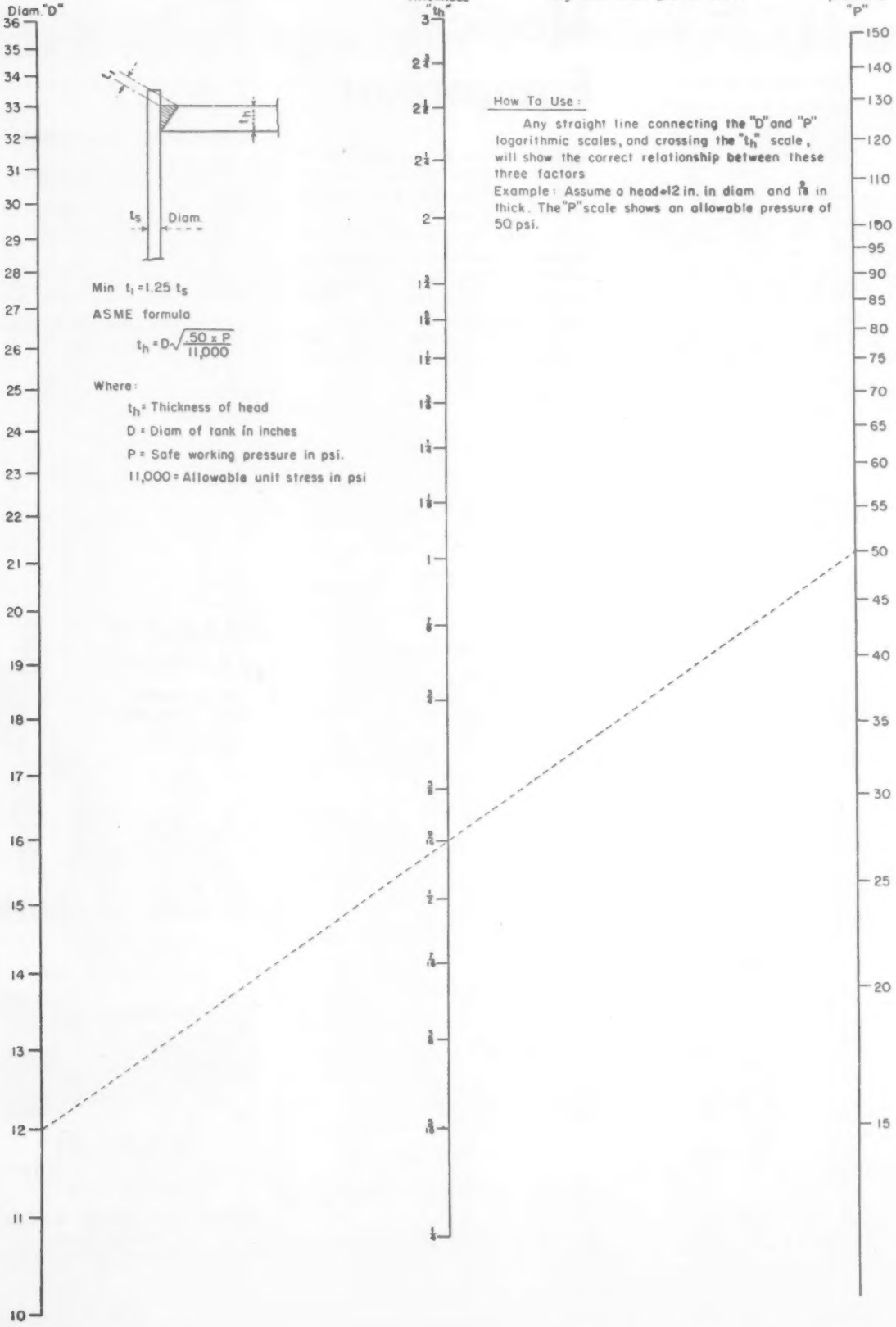
P = Safe working pressure in psi.

11,000 = Allowable unit stress in psi

How To Use:

Any straight line connecting the "D" and "P" logarithmic scales, and crossing the "t_h" scale, will show the correct relationship between these three factors

Example: Assume a head=12 in. in diam and $\frac{5}{16}$ in thick. The "P" scale shows an allowable pressure of 50 psi.



APRONS

(Continued from page 67)

Johns-Mansville Co., New York, N. Y.
Kimball Safety Prod. Co., Cleveland, Ohio
Raybestos Manhattan Inc., Passaic, N. J.
McDonald, B. F., Co., Los Angeles, Calif.
Milburn Co., Detroit, Mich.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Olympic Glove Co., Inc., The, New York, N. Y.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Racine Glove Co., Inc., Rio, Wis.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Singer Glove Mfg. Co., Chicago, Ill.
Standard Safety Equip. Co., Chicago, Ill.
Streichert, E. J., Chicago, Ill.
Tillman, John, & Co., Long Beach, Calif.
Universal Leather Co., Inc., Berlin, Wis.
Wheeler Protective Apparel, Inc., Chicago, Ill.
Wickman Glove Co., Berkeley, Calif.

CANVAS COVERS

Aljay Mfg. Co., Inc., Philadelphia, Pa.
Candy Belting Co., Grand Rapids, Mich.
General Scientific Equip. Co., Philadelphia, Pa.
Industrial Gloves Co., Danville, Ill.
Kimball Safety Prod. Co., Cleveland, Ohio
Paulsen-Webber Cordage Corp., New York, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Singer Glove Mfg. Co., Chicago, Ill.
Upson-Walton Co., The, Cleveland, Ohio
Wheeler Protective Apparel, Inc., Chicago, Ill.

CAPES, BIBS and SLEEVES, Asbestos Fire Resistant and Duck and Leather

Advance Glove Mfg. Co., Detroit, Mich.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., The, Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., Philadelphia, Pa.
Genter, C. D., Co., Chattanooga, Tenn.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Johns-Manville, New York, N. Y.
Kimball Safety Prod. Co., Cleveland, Ohio
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Olympic Glove Co., Inc., New York, N. Y.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Racine Glove Co., Inc., Rio, Wis.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Singer Glove Mfg. Co., Chicago, Ill.
Streichert, E. J., Chicago, Ill.
Tillman, John, & Co., Long Beach, Calif.
University Leather Co., Berlin, Wis.
Wheeler Protective Apparel, Inc., Chicago, Ill.
Wickman Glove Co., Berkeley, Calif.

COAT, LEATHER Asbestos, Fire-Resistant Duck

Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., Detroit, Mich.
Bullard Co., E. D., San Francisco, Calif.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Elliott Glove Co., Inc., Oconto, Wis.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equipment Co., Philadelphia, Pa.
Genter, C. D., Co., Chattanooga, Tenn.
Greene, Tweed & Co., North Wales, Pa.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Janos Asbestos Co., New York, N. Y.
Johns-Manville, New York, N. Y.
Keasbey & Mattison Co., Ambler, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
McDonald, B. F., Co., Los Angeles, Calif.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Olympic Glove Co., Inc., New York, N. Y.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Racine Glove Co., Inc., Rio, Wis.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Singer Glove Mfg. Co., Chicago, Ill.
Standard Safety Equip. Co., Chicago, Ill.
Streichert, E. J., Chicago, Ill.
Tillman, John & Co., Long Beach, Calif.
Universal Leather Co., Inc., Berlin, Wis.
Wheeler Protective Apparel, Inc., Chicago, Ill.
Wickman Glove Co., Berkeley, Calif.

CLOTHING, Safety

(See specific item desired, such as "Aprons," "Weldors' Caps," etc.)

COLLECTORS, EXHAUSTERS and BLOWER SYSTEMS

Aget-Detroit Co., Ann Arbor, Mich.
American Air Filter Co., Inc., Louisville, Ky.
American Blower Corp., Dearborn, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Champion Blower and Forge Co., Lancaster, Pa.
DeBothezat Fans Div., American Mach. & Metals, Inc., East Moline, Ill.
Delta Power Tool Div., Rockwell Mfg. Co., Milwaukee, Wis.
Engwald Corp., Brooklyn, N. Y.
General Blower Co., Morton Grove, Ill.
Hammond Mach. Builders, Inc., Kalamazoo, Mich.
Ilg Eelectric Ventilating Co., Chicago, Ill.
Mine Safety Appliances Co., Pittsburgh, Pa.
Paasche Airbrush Co., Chicago, Ill.
Pangborn Corp., Hagerstown, Md.
Ruemelin Mfg. Co., Milwaukee, Wis.
Schmieg Industries, Inc., Detroit, Mich.
Standard Electric Tool Co., Cincinnati, Ohio
Sturtevant, B. F., Co., Boston, Mass.
Torit Mfg. Co., St. Paul, Minn.
Wheelabrator Corp., Mishawka, Ind.
Whitinng Corp., Harvey, Ill.

COMPOUNDS, for Fire Extinguishers

Carbide & Carbon Chemicals Corp., New York, N. Y.
Diener, Geo. W., Mfg. Co., Chicago, Ill.
Pyrene Mfg. Co., Newark, N. J.

COVER LENSES

American Optical Co., Southbridge, Mass.
Arcos Corp., Philadelphia, Pa.
Bache, Semon & Co., New York, N. Y.
Boyer-Campbell Co., Detroit, Mich.
Bullock Co., L. H., Richmond, Calif.
Burdentt Oxygen Co., Cleveland, Ohio
Champion Rivet Co., Cleveland, Ohio
Chicago Eye Shield Co., Chicago, Ill.
Dockson Corp., Detroit, Mich.
Dunn Products, Chicago, Ill.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Electro Cover Glass Co., Inc., Pittsburgh, Pa.
Ergolyte Mfg. Co., Philadelphia, Pa.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equipment Co., Philadelphia, Pa.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Harris Welding Equipment Co., Chicago, Ill.
Industrial Products Co., Philadelphia, Pa.
Jackson Products, Inc., Warren, Mich.
K-G Equip. Co., Inc., Allentown, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
Lincoln Electric Co., The, Cleveland, Ohio
Metal & Thermit Corp., Rahway, N. J.
Metro Mfg. Co., L. I. City, N. Y.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Magna Industrial Lens Co., Holdenville, Okla.
National Cylinder Gas Co., Chicago, Ill.
Olympic Glove Co., Inc., The, New York, N. Y.
Parker Safety Equipment Co., Irvington, N. J.
Precision Welder Mfg. Co., Chicago, Ill.
Pulmosan Safety Equip. Corp., Brooklyn, N. Y.
Ragle J. M., Industries, Kansas City, Mo.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palatine, Ill.
Shrader, F. W., Co., Culver City, Calif.
Thermacote Co., Los Angeles, Calif.
United States Safety Service Co., Kansas City, Mo.
Victor Equipment Co., San Francisco, Calif.
Watchemoket Optical Co., Inc., Providence, R. I.
Welding Alloys Mfg. Co., Newark, N. J.
Welsh Mfg. Co., Providence, R. I.
Wilson Products, Inc., Reading, Pa.

CURTAINS, Asbestos, Fire-Resistant Duck, Leather

Aljay Mfg. Co., Inc., Philadelphia, Pa.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Boyer-Campbell Co., Detroit, Mich.
Daniels, C. R., Inc., New York, N. Y.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Elliott Gloves Co., Inc., Oconto, Wis.
Frommelt Industries, Dubuque, Iowa
General Scientific Equip. Co., Phila. Pa.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Janos Asbestos Co., New York, N. Y.
Johns-Manville, New York, N. Y.
Keasbey & Mattison Co., Ambler, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Racine Glove Co., Inc., Rio, Wis.
Raybestos-Manhattan Inc., Passaic, N. J.
Safety Clothting & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Singer Glove Mfg. Co., Chicago, Ill.
Standard Safety Equipment Co., Chicago, Ill.
Wheeler Protective Apparel, Inc., Chicago, Ill.

DETECTORS

(See: "Leak Detectors")

DUST COLLECTORS

(See "Collectors, Exhausters and Blower Systems")

DUST HOODS and MASKS

American-LaFrance-Foamite Corp., Elmira, N. Y.
American Optical Co., Southbridge, Mass.
DeVilbiss Co., The, Toledo, Ohio
Dockson Corp., Detroit, Mich.
Flood Safety Products Co., Chicago, Ill.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Goodrich, B. F., Co., The, Akron, Ohio
Industrial Products Co., Philadelphia, Pa.
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Paasche Airbrush Co., Chicago, Ill.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sciaky Bros., Chicago, Ill.
Sellstrom Mfg. Co., Palatine, Ill.
Willson Prod., Inc., Reading, Pa.

EAR PROTECTORS, Weldors'

American Optical Co., Southbridge, Mass.
General Scientific Equip. Co., Philadelphia, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
McDonald B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equipment Co., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Willson Products, Inc., Reading, Pa.

EXHAUST FANS

Air Controls, Inc., Cleveland, Ohio
American Blower Corp., Dearborn, Mich.
Autovent Fan & Blower Div., Herman Nelson Corp., Chicago, Ill.
Baldor Electric Co., St. Louis, Mo.
Chelsea Fan & Blower Co., Plainfield, N. J.
Clarage Fan Co., Kalamazoo, Mich.
Coppus Engineering Corp., Worcester, Mass.
DeBothezat Fans Div., American Mach. & Metals, Inc., East Moline, Ill.
De Vilbiss Co., The, Toledo, Ohio
Eagle-Picher Co., The, Cincinnati, Ohio
Electric Blower Co., Boston, Mass.
Elliott Mfg. Co., Binghamton, N. Y.
Engwald Corp., Brooklyn, N. Y.
General Blower Co., Morton Grove, Ill.
Hisey-Wolf Mach Co., Cincinnati, Ohio
Ilg Electric Ventilating Co., Chicago, Ill.
Jeffrey Mfg. Co., The, Columbus, Ohio
MacLeod Co., The, Cincinnati, Ohio
Mine Safety Appliances Co., Pittsburgh, Pa.
Nelson, Herman, Div., American Air Filter Co., Inc., Moline, Ill.
Paasche Airbrush Co., Chicago, Ill.
Robbins & Myers, Inc., Springfield, Ohio
Ruemelin Mfg. Co., Milwaukee, Wis.
Sturtevant, B. F., Co., Boston, Mass.
Swartwout Co., The, Cleveland, Ohio
Torit Mfg. Co., St. Paul, Minn.
Victor Electric Products, Inc., Cincinnati, Ohio

EYE DROPS

Ashton's Pharmacist, Youngstown, Ohio
Atlas Welding Accessories, Inc., Ferndale, Mich.
Carhoff Co., Cleveland, Ohio
Detroit First Aid Co., Detroit, Mich.
General Scientific Equip. Co., Philadelphia, Pa.
Murine Co., Chicago, Ill.
Safety Clothing & Equipment Co., Cleveland, Ohio

FACE SHIELDS, Arc Welding

(See also: "Helmets, Arc Welding")

American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., Detroit, Mich.
Burdett Oxygen Co., Cleveland, Ohio

Dockson
Face Shields
Built for Better Service
. . . a complete line of dependable head and eye protection. Made right—priced right—proved right.
DOCKSON CORPORATION
3837 Wabash Detroit 8, Mich.

Manufacturers of face and eye protection. Welders' helmets, shields, goggles and lens.

Face shield #300

Sellstrom Mfg. Co.
226 Hicks Road
Palatine, Ill.

FACE SHIELDS

(Continued from page 69)

Champion Rivet Co., Cleveland, Ohio
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equip. Co., Inc., Newark, N. J.
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Eastern Safety Equipment Co., New York, N. Y.
Ergolyte Mfg. Co., Philadelphia, Pa.
Fendall Co., Chicago, Ill.
Fibre-Metal Prod. Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
Forney Mfg. Co., Fort Collins, Colo.
General Scientific Equip. Co., Philadelphia, Pa.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Hobart Bros. Co., Troy, Ohio
Industrial Products Co., Philadelphia, Pa.
Jackson Products Inc., Warren, Mich.
Kedman Co., Salt Lake City, Utah
K-G Equip. Co., Inc., Allentown, Pa.
Lincoln Electric Co., The, Cleveland, Ohio
Metal & Thermit Corp., Rahway, N. J.
Metro Mfg. Co., Long Island City, N. Y.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Parker Safety Equipment Co., Irvington, N. J.
Precision Welder Mfg. Co., Chicago, Ill.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Rall Supply Co., New York, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palatine, Ill.
United States Safety Service Co., Kansas City, Mo.
Universal Welder Corp., Cleveland, Ohio
Victor Equipment Co., San Francisco, Calif.
Welsh Mfg. Co., Providence, R. I.
Willson Products, Inc., Reading, Pa.

FIBRE, Sheets and Tubes

Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
Kedman Co., Salt Lake City, Utah
Owens-Corning Fiberglas Corp., Toledo, Ohio
Westinghouse Electric Corp., Pittsburgh, Pa.
Wilmington Fibre Specialty Co., Wilmington, Del.

FINGER GUARDS

A & A Mfg. Co., Milwaukee, Wis.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Eastern Safety Equipment Co., New York, N. Y.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Olympic Glove Co., Inc., New York, N. Y.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Victor Equipment Co., San Francisco, Calif.
Wheeler Protective Apparel, Inc., Chicago, Ill.

FIRE EXTINGUISHERS

Allen, W. D., Mfg. Co., Chicago, Ill.
American-LaFrance-Foamite Corp., Elmira, N. Y.
American Oxygen Service Corp., Harrison, N. J.
Ansul Chemical Co., Marinette, Wis.
Bowser, Inc., Fort Wayne, Ind.
Buffalo Fire Appliance Corp., Dayton, Ohio
C-O Two Fire Equipment Co., Newark, N. J.
Diener, Geo. W., Mfg. Co., Chicago, Ill.
General Detroit Corp., The, Detroit, Mich.
Justrite Mfg. Co., Chicago, Ill.
Kidde, Walter, & Co., Inc., Belleville, N. J.
Miller-Peerless Mfg. Co., Chicago, Ill.
National Powder Extinguisher Corp., New York, N. Y.
Parker, W. D., Inc., New York, N. Y.
Pressurelube, Inc., New York, N. Y.
Pulmosan Safety Equipment Co., Brooklyn, N. Y.
Pyrene Mfg. Co., Newark, N. J.
Randolph Laboratories, Chicago, Ill.
Raybestos-Manhattan, Inc., Passaic, N. J.
Stop-Fire, Inc., Brooklyn, N. Y.

FIRE HOSE

Boston Woven Hose & Rubber Co., Boston, Mass.
Gates Rubber Co., The, Denver, Colo.
Goodall Rubber Co., Trenton, N. J.
Goodrich, B. F., Co., The, Akron, Ohio
Goodyear Tire & Rubber Co., Inc., Akron, Ohio
Hewitt-Robins Inc., Stamford, Conn.
Home Rubber Co., The, Trenton, N. J.
New York Belting & Packing Co., Passaic, N. J.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
Thermoid Co., Trenton, N. J.

FIRE RETARDANTS (For Flame-Proofing Clothing, Etc.)

American-LaFrance-Foamite Corp., Elmira, N. Y.
Croton Chemical Corp., New York, N. Y.
duPont, E. I., de Nemours & Co., Inc., Wilmington, Del.
Holcomb Safety Garment Co., Chicago, Ill.
Metal & Thermit Corp., Rahway, N. J.
Quaker Chemical Prod. Corp., Conshohocken, Pa.
Wayne Chemical Products Co., Detroit, Mich.

FIRST AID KITS

American Allsafe Co., Inc., Buffalo, N. Y.
Bullard, E. D., Co., San Francisco, Calif.
Carter-Lockard Co., Los Angeles, Calif.
Davis Emergency Equip. Co., Inc., Newark, N. J.
Eastern Safety Equipment Co., New York, N. Y.
General Scientific Equip. Co., Philadelphia, Pa.
Industrial Products Co., Philadelphia, Pa.
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland Ohio
Safety First Supply Co. Pittsburgh Pa.

FLASH PREVENTIVE

Acme Lead & Color Works Detroit, Mich.
General Scientific Equip. Co., Philadelphia, Pa.
Milburn Co., Detroit, Mich.
Oaklite Products, Inc., New York, N. Y.
Wayne Chemical Products Co., Detroit, Mich.
Wolfe-Kote Co., Sheboygan, Wis.
York Engineering Co., Chicago, Ill.

FUME COLLECTORS & REMOVERS

(See: "Ventilating Apparatus" and "Collectors, Blowers and Exhaust Systems")

GAS EXHAUSTERS

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Buffalo Forge Co., Buffalo, N. Y.
Chelsea Fan & Blower Co., Inc., Plainfield, N. J.
Clarage Fan Co., Kalamazoo, Mich.
Engwald Corp., Brooklyn, N. Y.
General Blower Co., Morton Grove, Ill.
Paasche Airbrush Co., Chicago, Ill.
Roots-Connersville Blower Corp., Connersville, Ind.
Sturtevant, B. F., Co., Boston, Mass.
Torit Mfg. Co., St. Paul, Minn.
Worthington Corp., Harrison, N. J.

GAS MASKS (For Welding)

Acme Protection Equipment Co., South Haven, Mich.

GLASS LENSES

American Optical Co., Southbridge, Mass.
Bache, Semon & Co., New York, N. Y.
Bausch & Lomb Optical Co., Rochester, N. Y.
Bullock, L. H., Co., Richmond, Calif.
Buredtt Oxygen Co., Cleveland, Ohio
Champion Rivet Co., Cleveland, Ohio
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Eastman Kodak Co., Rochester, N. Y.
Fendall Co., Chicago, Ill.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Industrial Products Co., Philadelphia, Pa.
Jackson Products, Inc., Warren, Mich.
Kedman Co., Salt Lake City, Utah
K-G Equip. Co., Inc., Allentown, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
Lincoln Electric Co., The, Cleveland, Ohio
Magna Industrial Lens Co., Holdenville, Okla.
Metal & Thermit Corp., Rahway, N. J.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Pulmosan Safety Equip. Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palatine, Ill.
Thermacote Welding Prods., Inc., Newark, N. J.
Trindl Products, Ltd., Chicago, Ill.
United States Safety Service Co., Kansas City, Mo.
Welding Alloys Mfg. Co., Newark, N. J.
Willson Products, Inc., Reading, Pa.
Wooldridge Aluminum Welding Prod., Malden, Mass.

GLOVES, Asbestos, Heat and Flame-Resistant Duck, Leather

A & A Mfg. Co., Milwaukee, Wis.
Advance Glove Mfg. Co., Detroit, Mich.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co., Southbridge, Mass.
Boss Mfg. Co., Kewanee, Ill.
Boyer-Campbell Co., Detroit, Mich.
Burdett Oxygen Co., Cleveland, Ohio
Candor Glove Co., Candor, N. Y.
Champion Rivet Co., Cleveland, Ohio
Eastern Equipment Co. Inc. Willow Grove, Pa.
Elliott Glove Co., Inc., Oconto, Wis.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., Philadelphia, Pa.
General Split Corp., Milwaukee, Wis.
Genter, C. D., Co., Chattanooga, Tenn.
Greene, Tweed & Co., North Wales, Pa.
Hammond Associates, Inc., New York, N. Y.
Hanover Glove Co., Inc., Hanover, Pa.
Holcomb Safety Garments Co., Chicago, Ill.
Imperial Glove Mfg. Co., Berlin, Wis.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Janos Asbestos Co., New York, N. Y.
Johns-Manville, New York, N. Y.
Kimball Safety Prod. Co., Cleveland, Ohio
Kirschner Gloves, Inc., Oconto, Wis.
Kriewall Specialty Mfg. Co., Oconto, Wis.
Milburn Co., Detroit, Mich.
Mine Safety Appliances Co., Pittsburgh, Pa.
Montpelier Glove Co., Montpelier, Ind.
National Cylinder Gas Co., Chicago, Ill.
Olympic Glove Co., Inc., New York, N. Y.
Perfect Glove Co., Inc., Milwaukee, Wis.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Racine Glove Co., Inc., Rio, Wis.
Safety Clothing & Equip. Co., Cleveland, Ohio

it out-performs any other work glove leather

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. . . test proved to be superior

WELDTAN is the super-chrome tanned cowhide split that gives you more heat resistance and softness than even a horsehide split. What's more, it has more abrasive and tensile strength than any leather has ever had before. All this has been proven by authoritative test results — all this is yours for slightly more than you'd pay for an ordinary glove. So the next time you buy work gloves, specify WELDTAN Leather. Its longer wearing qualities save you money.

Order today from any reputable glove manufacturer or safety supply house.

General Split Corporation
FIVE STAR QUALITY
World's largest producer of glove leather splits
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Why

GENCO WELDING GLOVES

are the Best!

The GENCO THUMB is the answer

↓ GENCO THUMB

LEATHER

ASBESTOS

The GENCO THUMB makes possible a glove that fits "like your skin." The line of tension is across the entire palm rather than concentrated on a sewn seam.

GENCO gloves are custom designed to meet your glove problems. With the GENCO THUMB glove action conforms to hand action. In gripping the pressure is on the ball of the thumb instead of on the sewn seam. Remember, seams burst at the points of greatest strain!

Genco Welding Gloves have the following outstanding features:

TOUGH, SOFT LEATHER—Perfect Fit.

LARGE or JUMBO PATTERN—Cooler Hands, Quick Removal.

ESTRON—"The New" fireproof lining—Absorbs Perspiration, No Balling or Pulling Loose.

CONSTRUCTION—Extra Reinforcing, Strength Where Strength Is Needed.

↓ STRAIGHT THUMB

LEATHER

ASBESTOS

Genco makes Weldor's Gloves for Weldors. They can be made to your specifications with extra reinforcing—extra patches—thumb strap—pull tab—double thumb—wing thumb—straight thumb—multiple piece or one piece back. You may select the leather desired, such as Cowhide for durability; Horsehide for flexibility and feel; Carpancha for softness. Special gloves are available for various types of welding jobs—Heavy Duty—Maintenance—General Shop—Pipe Welding—Shipyard—Burning.

Genco also manufactures:

SLEEVES, APRONS, ASBESTOS MITTENS and PROTECTIVE CLOTHING OF ALL TYPES. Write for FREE catalogue.

Service Since 1929

C. D. GENTER CO. **2109 BROAD STREET CHATTANOOGA, TENN.**

Safety First Supply Co., Pittsburgh, Pa.
Singer Glove Mfg. Co., Chicago, Ill.
Streichert, E. J., Chicago, Ill.
Tillman, John, & Co., Long Beach, Calif.
Universal Leather Co., Berlin, Wis.
Wheeler Protective Apparel, Inc., Chicago, Ill.
Wickman Glove Co., Berkeley, Calif.

GOGGLE CLEANERS

Allen Optical Co., Sani Spray Div., Buffalo, N. Y.
American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., The, Detroit, Mich.
General Scientific Equip. Co., Philadelphia, Pa.
Mine Safety Appliances Co., Pittsburgh, Pa.
Oakite Prod. Inc., New York, N. Y.
Pulmosan Safety Equip. Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
United States Safety Service Co., Kansas City, Mo.
Welkins Co., Inc., Cortland, N. Y.

SUPERGOGGLES, series 70

New Gas Welding and Grinding Goggles made roomier for comfort and good fit, even over the largest spectacles. With elastic headband (shown) or with plastic headgear, telescopic arms.

JACKSON PRODUCTS
WARREN, MICHIGAN

GOGGLES, Chippers', Cover, Spectacle Type with Side Shield, and Welding

American Allsafe Co., Inc., Buffalo, N. Y.
American Optical Co., Southbridge, Mass.
Bausch & Lomb Optical Co., Rochester, N. Y.
Boyer-Campbell Co., The, Detroit, Mich.
Bullock, L. H., Co., Richmond, Calif.
Burdett Oxygen Co., Cleveland, Ohio
Central Steel & Wire Co., Chicago, Ill.
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equip. Co., Inc., Newark, N. J.
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.

Goggle #610

Manufacturers of face and eye protection. Welders' helmets, shields, goggles and lens.

Sellstrom Mfg. Co.
226 Hicks Road
Palatine, Ill.

Eastern Safety Equipment Co., New York, N. Y.
Electric Eye Equipment Co., Danville, Ill.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Fendall Co., Chicago, Ill.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., Philadelphia, Pa.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Goggle Parts Co., Cleveland, Ohio
Industrial Products Co., Philadelphia, Pa.
Jackson Products, Inc., Warren, Mich.
K-G Equipment Co., Inc., Allentown, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
Metro Mfg. Co., L. I. City, N. Y.
Milburn, Alexander, Inc., Baltimore, Md.
Mine Safety Appliances Co., Pittsburgh, Pa.
Modern Engineering Co., Inc., St. Louis, Mo.
National Welding Equip. Co., San Francisco, Calif.

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Olympic Glove Co., Inc., New York, N. Y.
Parker Safety Equip. Corp., Irvington, N. J.
Pulmosan Safety Equip. Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palatine, Ill.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Thermacote Co., Los Angeles, Calif.
Thermacute Welding Prod. Co., Newark, N. J.
Trex Engineering Supply Co., Newark, N. J.
United States Safety Service Co., Kansas City, Mo.
Universal Power Corp., Cleveland, Ohio
Univis Lens Co., The, Dayton, Ohio
Victor Equipment Co., San Francisco, Calif.
Wallace Optical Co., Inc., Detroit, Mich.
Watchemoket Optical Co., Inc., Providence, R. I.
Welding Alloys Mfg. Co., Newark, N. J.
Welsh Mfg. Co., Providence, R. I.
Willson Products, Inc., Reading, Pa.

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Premium Quality at Low Price

"Super-Visibility" The safest, most preferred protective lens available. Gives maximum protection with minimum eye strain. Available in any shade.

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American Optical Co., Southbridge, Mass.
Bache, Semon & Co., New York, N. Y.
Bullard, E. D., Co., San Francisco, Calif.
Bullock, L. H., Co., Richmond, Calif.
Burdett Oxygen Co., Cleveland, Ohio
Chicago Eye Shield Co., Chicago, Ill.
Culver Glass Specialties, Inc., New York, N. Y.
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Fendall Co., Chicago, Ill.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., Philadelphia, Pa.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Industrial Products Co., Philadelphia, Pa.
Jackson Products, Inc., Warren, Mich.
Kimball Safety Prod. Co., Cleveland, Ohio
Lincoln Electric Co., The, Cleveland, Ohio
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Metro Mfg. Co., L. I. City, N. Y.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
National Welding Equip. Co., San Francisco, Calif.
Nutt Co., Buell W., Los Angeles, Calif.
Olympic Glove Co., Inc., The, New York, N. Y.
Precision Welder Mfg. Co., Chicago, Ill.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palantine, Ill.
Thermacote Welding Prods., Inc., Newark, N. J.
United State Safety Service Co., Kansas City, Mo.
Univis Lens Co., The, Dayton, Ohio
Wallace Optical Co., Detroit, Mich.
Whatchmoket Optical Co., Inc., Proividence, R. I.
Welding Alloys Mfg. Co., Newark, N. J.
Weldit, Inc., Detroit, Mich.
Welsh Mfg. Co., Providence, R. I.
Willson Products, Inc., Reading, Pa.
Wooldridge Aluminum Welding Prod., Malden, Mass.

Manufacturers of face and eye protection. Welders' helmets, shields, goggles and lens.

Sellstrom Mfg. Co.
226 Hicks Road
Palatine, Ill.

HAND SHIELDS

(See: "Face Shields, Arc Welding")

HATS, Safety

Boyer-Campbell Co., Detroit, Mich.
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Detroit Corp., The, Detroit, Mich.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Jackson Products, Inc., Warren, Mich.
Kedman Co., Salt Lake City, Utah.
K-G Equip. Co., Inc., Allentown, Pa.
McDonald, B. F., Co., Los Angeles, Calif.

JACKSON

SAFETY HATS and CAPS

Made of fiber glass for lightness, and rigidly tested for maximum protection, with an exclusive, extruded plastic headband for better fit, the full-brimmed HAT (left) and the CAP (right) are available in seven standard colors.

CAP-and-HELMETS

Jackson arc welding helmets are pivoted from the sides of the safety cap. Other combinations are Cap-and-Goggles, Hat-and-Face Shields.

JACKSON PRODUCTS
WARREN, MICHIGAN

Double the Guard

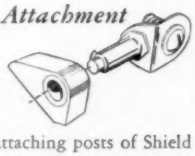
on welding jobs . . .

with the M·S·A Combination

Skullgard—Welding Helmet

There are plenty of welding jobs where head protection is as vital as face protection. The M.S.A. combination Skullgard-Welding Helmet is the practical, comfortable solution to both hazards. The fracture-resistant Skullgard protects against head injury from falling objects, while the Welding Shield guards against weld-flash and heat.

Instant Release Attachment



Allows quick, easy removal and replacement of Welding Shield while Skullgard is being worn. Attaching posts of Shield slide into two, non-conducting plastic lugs on each side of helmet. Posts are equipped with spring catches. Light push on post ends retracts the catches, freeing the Shield from the Skullgard. Friction joints permit pivoting of shield for work inspection.

Bulletin No. CO-2 gives details.

MINE SAFETY APPLIANCES COMPANY

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SAFETY EQUIPMENT HEADQUARTERS

Call the MSA Man on your every safety problem . . . his job is to help you.

Milburn Co., Detroit Mich.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Resistoflex Corp., Belleville, N. J.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
United States Safety Service Co., Kansas City, Mo.

HELMETS, Arc Welding

American Optical Co., Southbridge, Mass.
American Oxygen Service Corp., Harrison, N. J.
Boyer-Campbell Co., The, Detroit, Mich.
Bullard, E. D., Co., The, San Francisco Calif.
Burdett Oxygen Co. Cleveland, Ohio
Carter-Lockard Co., Los Angeles, Calif.
Champion Rivet Co., Cleveland, Ohio
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Fendall Co., Chicago, Ill.
Fibre-Metal Prod. Co. The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
Forney Mfg. Co., Fort Collins, Colo.
General Scientific Equip. Co., Philadelphia, Pa.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Greyhound A. C. Arc Welder Corp., Brooklyn, N. Y.
Hobart Bros. Co., Troy, Ohio
Holcomb Safety Garment Co., Chicago, Ill.
Jackson Products, Inc., Warren, Mich.
Kedman Co., Salt Lake City, Utah
K-G Equip. Co., Inc., Allentown, Pa.
Lincoln Electric Co., The, Cleveland, Ohio
McFerron-Myers Prod. Co., Cleveland, Ohio
Metal & Thermit Corp., Rahway, N. J.
Metro Mfg. Co., Long Island City, N. Y.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Precision Welder Mfg. Co., Chicago, Ill.
Pulmosan Safety Equip. Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palatine, Ill.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
US Electric Welder Corp., Toledo, Ohio
Victor Equipment Co., San Francisco, Calif.
Welders Products, Chicago, Ill.
Welding Apparatus Co., Chicago, Ill.
Welsh Mfg. Co., Providence, R. I.
Whitehead Metal Products Co., Inc., New York, N.Y.
Willson Products, Inc., Reading, Pa.
Wilson Welder & Metals Co., Inc., New York, N. Y.

HELMETS, Periscope

Industrial Prods. Co., Philadelphia, Pa.

HELMETS, Sand Blast

Boyer-Campbell Co., The, Detroit, Mich.
Bullard, E. D., Co., The, San Francisco Calif.
Chicago Eye Shield Co., Chicago, Ill.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., The, Chester, Pa.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
MacLeod Co., The, Cincinnati, Ohio
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliance Co. Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Pangborn Corp., Hagerstown, Md.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palatine, Ill.
U. S. Rubber Co., New York, N. Y.
Willson Products, Inc., Reading, Pa.

HELMETS, with Safety Hat

Boyer-Campbell Co., The, Detroit, Mich.
Bullard, E. D., Co., The, San Francisco Calif.
Champion Rivet Co., Cleveland, Ohio

Dockson
HELMETS

Built for Better Service

. . . a complete line of dependable head and eye protection. Made right—priced right—proved right.

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3837 Wabash Detroit 8, Mich.

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HEAD SHIELDS

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RUGGED CONSTRUCTION
WELL VENTILATED
LEAKPROOF
COMFORTABLE
AMPLE ROOM FOR EYE GLASSES

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LINCOLN

Manufacturers of face and eye protection. Welders' helmets, shields, goggles and lens.

Helmet #243

Sellstrom Mfg. Co.
226 Hicks Road
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ARC WELDING HELMETS

HELMET SHELLS of fiber glass outlast vulcanized fibre many times; made in three styles.

ADJUST-O-LOCK Headgear of long wearing Nylon plastic has large winged knob for head-size adjustment, and has an adjustable cross strap as well.

FRICTION PIVOTS, also of insulative Nylon, have wing nuts for quick adjustment; adjustable stop halts down-swing where desired.

LENS HOLDERS offer choice of fixed types in metal or high-impact, insulative plastic, and a plastic lift front.

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WARREN, MICHIGAN

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Davis Emergency Equipment Co., Inc., Newark, N. J.
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Hobart Bros. Co., Troy, Ohio
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Phtiladelphia, Pa.
Jackson Prod. Inc., Warren, Mich.
Kedman Co., Salt Lake City, Utah
K-G Equip. Co., Inc., Allentown, Pa.
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co. Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Willson Products, Inc., Reading, Pa.

HELMETS, Supplied-Air

American Allsafe Co., Inc., Buffalo, N. Y.
Boyer-Campbell Co., The, Detroit, Mich.
Bullard, E. D., Co., The, San Francisco Calif.
Burdett Oxygen Co. Cleveland, Ohio
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Dockson Corp., Detroit, Mich.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equipment Co., Philadelphia, Pa.
Industrial Products Co., Philadelphia, Pa.
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co. Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Parsons Engineering Corp., Cleveland, Ohio
Pulmosan Safety Equipmen Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Willson Products, Inc., Reading, Pa.

LEAK DETECTORS

American Gas & Chemicals, Inc.
Eisler Engineering Co., Inc., Newark, N. J.
Linde Air Products Co., New York, N. Y.
Mine Safety Appliances Co., Pittsburgh, Pa.
National Cylinder Gas Co., Chicago, Ill.

LEATHER, Weldors'

(See also specific item such as: "Aprons," "Capes," "Coats," "Gloves," "Overalls," "Pants," Etc.)

A & A Mfg. Co., Milwaukee, Wis.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
Colonial Leather Co., Milwaukee, Wis.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Kimball Safety Prod. Co., Cleveland, Ohio
Lichtman & Sons, J., Newark, N. J.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Racine Glove Co., Inc., Rio, Wis.
Tillman, John & Co., Long Beach, Calif.
Universal Leather Co., Inc., Berlin, Wis.
Wheeler Protective Apparel, Inc., Chicago, Ill.

LEGGINGS, Asbestos, Fire Resistant Duck, Leather, Etc.

Advance Glove Mfg. Co., Detroit, Mich.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co., Southbridge, Mass.
Boyer Campbell Co., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Elliott Glove Co., Inc., Oconto, Wis.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., Philadelphia, Pa.
Genter, C. D., Co., Chattanooga, Tenn.
Greene, Tweed & Co., North Wales, Pa.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Janos Asbestos Co., New York, N. Y.
Kimball Safety Prod. Co., Cleveland, Ohio
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Olympic Glove Co., Inc., New York, N. Y.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Racine Glove Co., Inc., Rio, Wis.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Universal Leather Co., Inc., Berlin, Wis.

LENS CLEANERS

American Agile Corp., Cleveland, Ohio
American Allsafe Co., Inc., Buffalo, N. Y.
American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., The, Detroit, Mich.
Carhoff Co., Cleveland, Ohio
Ea stman Kodak Co., Rochester, N. Y.
General Scientific Equipment Co., Philadelphia, Pa.
Klem Chemicals, Inc., Dearborn, Mich.
Merix Chemical Co., Chicago, Ill.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Saftey First Supply Co., Pittsburgh, Pa.
United States Safety Service Co., Kansas City, Mo.
Willson Products, Inc., Reading, Pa.

LENS COATING, Against Pitting

American Agile Corp., Cleveland, Ohio
American Industrial Safety Equip. Co., Cleveland, Ohio
Bullock, L. H., Co., Richmond, Calif.
Dockson Corp., Detroit, Mich.
Faulk, F. R., Equipment Sales, Pittsburgh, Pa.
General Scientific Equipment Co., Pittsburgh, Pa.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Safety First Supply Co., Pittsburgh, Pa.
Wallace Optical Co., Inc., Detroit, Mich.

LENS PROTECTORS

American Industrial Safety Equip. Co., Cleveland, Ohio
Bullock, L. H., Co., Richmond, Calif.
Eastern Safety Equip. Co., New York, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
General Scientific Equipment Co., Pittsburgh, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Parker Safety Equipment Co., Irvington, N. J.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Victor Equipment Co., San Francisco, Calif.
Welding Alloys Mfg. Co., Newark, N. J.
Welsh Mfg. Co., Providence, R. I.
Willson Products, Inc., Reading, Pa.

MACHINERY GUARDS and SAFETY APPLIANCES

A & A Mfg. Co., Milwaukee, Wis.
Benjamin Electric Mfg. Co., Des Plaines, Ill.
Boyer-Campbell Co., The, Detroit, Mich.
Chicago Eye Shield Co., Chicago, Ill.
Clizbe Bros. Mfg. Co., Plymouth, Ind.
Industrial Products Co., Philadelphia, Pa.
Junkin Safety Appliance Co., Inc., Louisville, Ky.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morrison Prod. Inc., Cleveland, Ohio
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Schrader's, A., & Son Brooklyn N. Y.
Wright-Austin Co. Detroit Mich.

MASKS

(See: "Gas Masks," "Oxygen Masks," "Paint Spray Masks," and "Sand Blast Masks")

OPTICAL CASES

American Optical Co. Southbridge Mass.
Bausch & Lomb Optical Co., Richester, N. Y.
Fendall Co., Chicago, Ill.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Kimball Safety Prod. Co., Cleveland, Ohio
Sellstrom Mfg. Co., Palatine, Ill.
Willson Products, Inc., Reading, Pa.

OVERALLS and PANTS Asbestos, Fire-Resistant Duck, Leather

Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., Detroit, Mich.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Elliot Glove Co., Inc., Oconto, Wis.
Fibre-Metal Products Co., The, Chester, Pa.
General Scientific Equipment Co., Philadelphia, Pa.
Genter, C. D., Co., Chattanooga, Tenn.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Janos Asbestos Co., New York, N. Y.
Johns-Manville, New York, N. Y.
Kimball Safety Prod. Co., Cleveland, Ohio
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances, Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia Pa.
Olympic Glove Co., Inc., New York, N. Y.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Racine Glove Co., Inc., Rio, Wis.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Tillman, John, & Co., Long Beach, Calif.
Universal Leather Co., Inc., Berlin, Wis.
Wheeler Protective Apparel, Inc., Chicago, Ill.
Wickman Glove Co., Berkeley, Calif.

OXYGEN MASKS

American Gas & Chemical Corp., Harrison, N. J.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Liquid Carbonic Corp., The, Chicago, Ill.
Mine Safety Appliances Co., Pittsburgh, Pa.
Nageldinger, J., & Son, Inc., New York, N. Y.
National Cylinder Gas Co., Chicago, Ill.
National Welding Equip. Co., San Francisco, Calif.
Puritan Compressed Gas Corp., Kansas City, Mo.
Safety First Supply Co., Pittsburgh, Pa.
Varkell, Paul, Co., New York, N. Y.

PAINT SPRAY MASKS

American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., The, Detroit, Mich.
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equipment Co., Inc., Newark, N. J.
DeVilbiss Co., The, Toledo, Ohio
Dockson Corp., Detroit, Mich.
Flood Safety Products Co., Chicago, Ill.
General Detroit Corp., The, Detroit, Mich.
General Scientific Equipment Co., Philadelphia, Pa.
Mine Safety Appliances Co., Pittsburgh, Pa.
Paasche Airbrush Co., Chicago, Ill.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Willson Products, Inc., Reading, Pa.

PIPING, Blow, Exhaust and Ventilating

American Agile Corp., Bedford, Ohio
Engwall Corp., Brooklyn, N. Y.
Midwest Piping & Supply Co., Inc., St. Louis, Mo.
Naylor Pipe Co., Chicago, Ill.
Paasche Airbrush Co., Chicago, Ill.
Schmieg Industries, Inc., Detroit, Mich.
Sprout, Waldron & Co., Inc., Muncy, Pa.
Taylor Forge & Pipe Works, Chicago, Ill.

PLASTIC COVER LENSES

Arcos Corp., Philadelphia, Pa.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Burdett Oxygen Co., Cleveland, Ohio
Champion Rivet Co., Cleveland, Ohio
Chicago Eye Shield Co., Chicago, Ill.
Dockson Corp., Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Kimball Safety Prod. Co., Cleveland, Ohio
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
National Cylinder Gas Co., Chicago, Ill.
Oxo Welding Equipment Co., Chicago, Ill.
Pulmosan Safety Equip. Co., Brooklyn, N. Y.
Sellstrom Mfg. Co., Palatine, Ill.
Smith, A. O. Corp., Milwaukee, Wis.
United States Safety Service Co., Kansas City, Mo.
Watchemoket Optical Co., Inc., Providence, R. I.
Welding Alloy Mfg. Co., Newark, N. J.

RESPIRATORS

American Optical Co., Southbridge, Mass.
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equipment Co., Inc., Newark, N. J.
DeVilbiss Co., The, Toledo, Ohio
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., Philadelphia, Pa.
Guyan Machinery Co., Logan, W. Virginia
Industrial Products Co., Philadelphia, Pa.
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Nageldinger & Son, Inc., J., New York, N. Y.
Paasche Airbrush Co., Chicago, Ill.
Pulmosan Safety Equipment Co., Cleveland, Ohio
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Sellstrom Mfg. Co., Palatine, Ill.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Willson Products, Inc., Reading, Pa.

SAFETY SHOES

Davis Emergency Equipment Co., Inc., Newark, N. J.
Dunn Products, Chicago, Ill.
Greene, Tweed & Co., North Wales, Pa.
Industrial Products Co., Philadelphia, Pa.
International Shoe Co., St. Louis, Mo.
Lehigh Safety Shoe Co., Inc., Allentown, Pa.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety First Supply Co., Pittsburgh, Pa.
Thom McAn Safety Shoe Div., New York, N. Y.
Thompson Engineering Co., Grand Rapids, Mich.

SALT TABLETS and DISPENSERS

Davis Emergency Equipment Co., Inc., Newark, N. J.
General Scientific Equip. Co., Philadelphia, Pa.
Industrial Products Co., Philadelphia, Pa.
International Salt Co., Inc., Scranton, Pa.
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morton Salt Co., Chicago, Ill.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Standard Safety Equip. Co., Chicago, Ill.
United States Safety Service Co., Kansas City, Mo.

SAND BLAST MASKS

Boyer-Campbell Co., The, Detroit, Mich.
Chicago Eye Shield Co., Chicago, Ill.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Flood Safety Co., Chicago, Ill.
General Scientific Equipment Co., Philadelphia, Pa.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Mine Safety Appliances Co., Pittsburgh, Pa.
Paasche Airbrush Co., Chicago, Ill.
Pangborn Corp., Hagerstown, Md.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.

SKIN CREAM, Cleansing and Protective

Boyer-Campbell Co., The, Detroit, Mich.
Cadet Creme Sales Co., Springfield, Mass.
Davis Emergency Equipment Co., Inc., Newark, N. J.
Dennis Chemical Co., St. Louis, Mo.
Dunn Products, Chicago, Ill.
Industrial Products Co., Philadelphia, Pa.
Milburn Co., Detroit, Mich.
Mine Safety Appliances Co., Pittsburgh, Pa.
Permolatem Welding Alloys, Inc., Redbank, N. J.
Pulmosan Safety Equip. Corp., Brooklyn, N. Y.
Safety Clothing & Equipment Co., Cleveland, Ohio

SLEEVES, Asbestos, Fire-Resistant Duck, and Leather

A & A Mfg. Co., Milwaukee, Wis.
Advance Glove Mfg. Co., Detroit, Mich.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
American Optical Co., Southbridge, Mass.
Boyer-Campbell Co., The, Detroit, Mich.
Bullard, E. D., Co., San Francisco, Calif.
C. R. Daniels, Inc., Baltimore, Md.
Eastern Equipment Co., Inc., Willow Grove, Pa.
General Scientific Equipment Co., Philadelphia, Pa.
Genter, C. D., Co., Chattanooga, Tenn.
Holcomb Safety Garment Co., Chicago, Ill.
Industrial Gloves Co., Danville, Ill.
Industrial Products Co., Philadelphia, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
McDonald, B. F., Co., Los Angeles, Calif.
Mine Safety Appliances Co., Pittsburgh, Pa.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Olympic Glove Co. Inc., The, New York, N. Y.
Pulmosan Safety Equip. Corp., Brooklyn, N. Y.
Raybestos-Manhattan, Inc., Passaic, N. J.
Safety Clothing & Equipment Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Singer Glove Mfg. Co., Chicago, Ill.
Streichert, E. J., Chicago, Ill.
Tillman, John, & Co., Long Beach, Calif.
Universal Leather Co., Inc. Berlin, Wis.
Wheeler Protective Apparel Inc. Chicago, Ill.

SWEAT BANDS

American Optical Co., Southbridge, Mass.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
General Scientific Equip. Co., Philadelphia, Pa.
Glendale Optical Co., Inc., Valley Stream, N. Y.
Mine Safety Appliances Co., Pittsburgh, Pa.
Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
Ragle, J. M., Industries, Kansas City, Mo.
Safety Clothing & Equip. Co., Cleveland, Ohio
Safety First Supply Co., Pittsburgh, Pa.
Standard Safety Equip. Co., Chicago, Ill.

VENTILATING APPARATUS

(See also: "Exhaust Fans," "Collectors, Exhausters and Blower Systems," Etc.)

Aget-Detroit Mfg. Co., Ann Arbor, Mich.
Chelsea Fan & Blower Co., Inc., Irvington, N. J.
De Bothezat Fans Div., American Mach. & Metals, Inc., East Moline, Ill.
Detroit, Stamping Co., Detroit, Mich.
Engwald Corp., Brooklyn, N. Y.
General Blower Co., Morton Grove, Ill.
Ilg Electric Ventilating Co., Chicago, Ill.
Mine Safety Appliances Co., Pittsburgh, Pa.
R. S. Products Corporation, Philadelphia, Pa.
Ruemelin Mfg. Co., Milwaukee, Wis.
Torit Mfg. Co., St. Poul, Minn.
United Blower Co., New York, N. Y.
Westinghouse Electric Corp., Pittsburgh, Pa.

WELDORS' CAPS

Advertisers Mfg. Co., Ripon, Wis.
Aljay Mfg. Co., Inc., Philadelphia, Pa.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Boyer-Campbell Co., Detroit, Mich.
Champion Rivet Co., Cleveland, Ohio
Fibre-Metal Products Co., The, Chester, Pa.
Flood Safety Products Co., Chicago, Ill.
Jackson Products, Inc., Warren, Mich.
Kedman Co., Salt Lake City, Utah
Lincoln Electric Co., The, Cleveland, Ohio
Liquid Carbonic Corp., The, Chicago, Ill.
Louisville Cap Co., Louisville, Ky.
Mine Safety Appliances Co., Pittsburgh, Pa.
Ragle, J. M., Industries, Kansas City, Mo.

INDUSTRIAL EQUIPMENT

WHILE the NWSA calls this section "Non-welding items," WELDING ENGINEER prefers the heading "Industrial equipment," also used last year.

This group is basically devoted to those items that might be useful to a weld shop (and which are often found in one) but are not employed in actual welding operations. However, a great number of such tools make welding much easier.

The NWSA lists six sub-headings:

1010 Abrasives
1020 Hand tools
1030 Power tools
1040 Machine tools
1050 Hardware items
1080 Miscellaneous

ABRASIVES

Abrasive Products, Inc., So. Braintree, Mass.
Armour & Co., Alliance, Ohio
Bates Products, Inc., Chicago, Ill.
Bay State Abrasive Products Co., Westboro, Mass.
Behr-Manning Corp., Troy, N. Y.
Carborundum Co., The, Niagara Falls, N. Y.
Chicago Wheel Mfg. Co., Chicago, Ill.
Cincinnati Milling Machine Co., Cincinnati, Ohio
Clayton-Sherman Abrasives Co., Detroit, Mich.
Clover Mfg. Co., Norwalk, Conn.
Desanno, A. P., & Son, Inc., Phoenixville, Pa.
Divine Brothers Co., Utica, N. Y.
duPont, E. I., de Nemours & Co., Inc., Wilmington, Del.
Fibre Abrasive Corp., Chicago, Ill.
Ideal Industries, Inc., Sycamore, Ill.
Industrial Overlay Metals, Inc., Eaton, Ohio
Macklin Co., Jackson, Mich.
Raybestos-Manhattan, Inc., Passaic, N. J.
Michigan Abrasive Co., Detroit, Mich.
Mid-West Abrasive Co., Owosso, Mich.
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Norton Co., Worcester, Mass.
Precision Grinding Wheel Co., Inc., Philadelphia, Pa.
Roberts Rubber Co., Newark, N. J.
Safety Grinding Wheel & Machine Co., Springfield, Ohio
Simonds Abrasive Co., Philadelphia, Pa.
Strand, N. A., Div., The Balmar Corp., Chicago, Ill.
Thor Power Tool Co., Aurora, Ill.
United States Rubber Co., Fort Wayne, Ind.
Universal Wheel & Abrasive Corp., Chicago, Ill.
Wheelabrator Corp., Mishawaka, Ind.

ABRASIVE BELTS

Abrasive Products, Inc., So. Braintree, Mass.
Armour & Co., Alliance, Ohio
Atlas Abrasives Corp., Brooklyn, N. Y.
Behr-Manning Div., Troy, N. Y.
Carborundum Co., The, Niagara Falls, N. Y.
Clover Mfg. Co., Norwalk, Conn.
Michigan Abrasive Co., Detroit, Mich.
Midwest Abrasive Co., Owosso, Mich.
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Ryman Engineering Co., Inc., Elwood City, Pa.
Tinkote Co., Revere, Mass.
Universal Wheel & Abrasive Corp., Chicago, Ill.
Victor Balata & Textile Belting Co., New York, N. Y.

ABRASIVE BELT GRINDERS

American Diamond Saw Co., Portland, Ore.
Acme Mfg. Co., Detroit, Mich.
Balmar, Franklin, Corp., Baltimore, Md.
Behr-Manning Div., Troy, N. Y.
Buckeye Tool Corp., Dayton, Ohio
Delta Power Tool Div., Rockwell Mfg. Co., Milwaukee, Wis.
Divine Brothers Co., Utica, N. Y.
Fox Grinders, Inc., Pittsburgh, Pa.
Hammond Machinery Builders, Inc., Kalamazoo, Mich.
Jones Engineering Co., Ellwood City, Pa.
MacDermid, Inc., Waterbury, Conn.
Nu-Matic Grinders, Inc., Cleveland, Ohio
Peterson Welding Laboratories, Kansas City, Mo.
Porter-Cable Machine Co., Syracuse, N. Y.
Ryman Engineering Co., Inc., Ellwood City, Pa.
Standard Electric Tool Co., The, Cincinnati, Ohio
Thor Power Tool Co., Aurora, Ill.
Van Dorn Electric Tool Co., Towson, Md.
Walls Sales Corp., New York, N. Y.

ABRASIVE BRICKS and STICKS

Bay State Abrasive Products Co., Westboro, Mass.
Behr-Manning Div., Troy, N. Y.
Carborundum Co., The, Niagara Falls, N. Y.
Cincinnati Milling Products Div., Cincinnati, Ohio
Cratex Mfg. Co., San Francisco, Calif.
Macklin Co., Jackson, Mich.
Mid-West Abrasive Co., Owosso, Mich.
Norton Co., Worcester, Mass.
Roberts, Weldon, Rubber Co., Newark, N. J.
Sandusky Abrasive Wheel Co., Kalamazoo, Mich.
Simonds Abrasive Co., Philadelphia, Pa.
Sterling Grinding Wheel Div., Cleveland Quarries Co., Tiffin, Ohio
Universal Wheel & Abrasive Corp., Chicago, Ill.

ABRASIVE DISCS

Abrasive Products, Inc., South Braintree, Mass.
Albertson & Co., Inc., Sioux City, Iowa
Armour & Co., Alliance, Ohio
Atlas Abrasive Corp., Brooklyn, N. Y.
Bates Products, Inc., Chicago, Ill.
Bay State Abrasive Products Co., Westboro, Mass.
Behr-Manning Div., Troy, N. Y.
Besly-Welles Corp., Beloit, Wis.
Chicago Wheel & Mfg. Co., Chicago, Ill.
Clover Mfg. Co., Norwalk, Conn.
Cortland Grinding Wheels Corp., Chester, Mass.
Cratex Mfg. Co., San Francisco, Calif.
de Sanno, A. P., & Sons, Inc., Phoenixville, Pa.
Haskins, R. G., Co., Chicago, Ill.
Hoffman, R. W., Co., Inc., Chicago, Ill.
Michigan Abrasive Co., Detroit, Mich.
Mid-West Abrasive Co., Owosso, Mich.
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Norton Co., Worcester, Mass.
Precision Grinding Wheel Co., Inc., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Roberts, Weldon, Rubber Co., Newark, N. J.
Sandusky Abrasive Wheel Co., Kalamazoo, Mich.
Thermoid Rubber Div., Thermoid Co., Trenton, N. J.
U. S. Rubber Co., New York, N. Y.
Wisconsin Abrasive Co., Milwaukee, Wis.

ABRASIVE GRAINS

Carborundum Co., The, Niagara Falls, N. Y.
Macklin Co., Jackson, Mich.
Mid-West Abrasive Co., Owosso, Mich.
Norton Co., Worcester, Mass.
Simonds Abrasive Co., Philadelphia, Pa.

AIR COMPRESSORS

Brunner Mfg. Co., Utica, N. Y.
Champion Pneumatic Machinery Co., Chicago, Ill.
Chicago Pneumatic Tool Co., New York, N. Y.
Curtis Pneumatic Machinery Div., Curtis Mfg. Co., St. Louis, Mo.
DeVilbiss Co., The, Toledo, Ohio
Fairbanks, Morse & Co., Chicago, Ill.
Independent Pneumatic Tool Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.
Joy Mfg. Co., Pittsburgh, Pa.
Kellogg Div., American Brake Shoe Co., Rochester, N. Y.
Paasche Airbrush Co., Chicago, Ill.
Roots-Connersville Blower Corp., Connersville, Ind.
Schramm, Inc., West Chester, Pa.
Smith, Gordon, & Co., Inc., Bowling Green, Ky.
Worthington Corp., Harrison, N. J.

AIR CYLINDERS

Aronson Machine Co., Arcade, N. Y.
Lapeer Mfg. Co., Lapeer, Mich.
Lindberg Engineering Co., Chicago, Ill.
Miller Fluid Power Co., Melrose Park, Ill.
Studebaker Machine Co., Maywood, Ill.
Swift Electric Welder Co., Detroit, Mich.
Taylor-Wharton Iron & Steel Co., Cincinnati, Ohio

AIRLINE FITTINGS

Aro Equipment Corp., Bryan, Ohio
Bellows Co., Akron, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Dallett Co., The, Philadelphia, Pa.
DeVilbiss Co., The, Toledo, Ohio
Dixon Valve & Coupling Co., Philadelphia, Pa.
Dockson Corp., Detroit, Mich.
Hose Accessories Co., Philadelphia, Pa.
Hunt, C. B., & Son, Salem, Ohio
Knox Mfg. Co., Philadelphia, Pa.
Lincoln Engineering Co., St. Louis, Mo.
Lunkenheimer Co., The, Cincinnati, Ohio

Mulconroy Co., Philadelphia, Pa.
National Welding Equip. Co., San Francisco, Calif.
Paasche Airbrush Co., Chicago, Ill.
Rotor Tool Co., Cleveland, Ohio
Schrader's, A., Son, Div. of Scovill Mfg. Co., Inc., Brooklyn, N. Y.
Shuman, H. B., Mfg. Co., Battle Creek, Mich.
Stewart-Warner Corp., Alemite Div., Chicago, Ill.
Weatherhead Company The, Cleveland, Ohio

AIRLINE LUBRICATORS, FILTERS

Aro Equipment Corp., Bryan, Ohio
Gardner-Denver Co., Quincy, Ill.
Hannifin Corp., Chicago, Ill.
Independent Pneumatic Tool Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.
Lincoln Engineering Co., St. Louis, Mo.
M-B Products Co., Detroit, Mich.
Norgren Co., C. A., Denver, Colo.
Paasche Airbrush Co., Chicago, Ill.
Schrader's, A, Son, Div. of Scovill Mfg. Co., Inc., Brooklyn, N. Y.
Victor Equipment Co., San Francisco, Calif.

AIR RECEIVERS

Curtis Pneumatic Machinery, Div. of Curtis Mfg.
Joy Mfg. Co., Pittsburgh, Pa.
Pressed Steel Tank Co., Milwaukee, Wis.
Riverside Iron Works Ltd., Calgary, Canada
Schramm, Inc., West Chester, Pa.
Worthington Pump & Machinery Corp., Harrison, N. J.

ANNEALING and CASE HARDENING POTS

Eclipse Fuel Engineering Co., Rockford, Ill.
Hevi Duty Electric Co., Milwaukee, Wis.
Holden, A. F., Co., The, New Haven, Conn.
Hollands Mfg. Co., Erie, Pa.
Hoskins Mfg. Co., Detroit, Mich.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Lukens Steel Co., Coatsville, Pa.
Mahr Mfg. Co., Div. Diamond Iron Works, Inc., Minneapolis, Minn.
R. S. Products Corp., Philadelphia, Pa.
Standard Research Inc., New Haven, Conn.
Sunbeam Stewart Industrial Furnace, Division Sunbeam Corp., Chicago, Ill.

ANVIL and Vise Combined

Champion Blower & Forge Co., Lancaster, Pa.
Illinois Iron & Bolt Co., Carpentersville, Ill.
Wilton Tool Mfg. Co., Chicago, Ill.

ANVILS, Bench, Blacksmiths', Saw

Atkins-Saw Div., Borg-Warner Corp., Indianapolis, Ind.
Columbian Vise & Mfg. Co., The, Cleveland, Ohio (Wrought)
Columbus Anvil & Forging Co., The, Columbus, Ohio
Fisher & Norris (Eagle Anvil Works), Trenton, N. J.
Illinois Iron & Bolt Co., Carpentersville, Ill.
Simonds Saw & Steel Co., Fitchburg, Mass.

APPLICATOR BARS

Allied Tractor & Steel Prod. Corp., Cleveland, Ohio
American Manganese Steel Div. of American Brake Shoe Co., Chicago Heights, Ill.
Ford Steel Co., St. Louis, Mo.
Industrial Overlay Metals, Inc., Eaton, Ohio
Pyramid Steel Co., Cleveland, Ohio
Steel Sales Corp., Chicago, Ill.
Stulz-Sickles Co., Newark, N. J.

ARC TIME TOTALIZERS

DV Controls Div., Engineered Instruments, Inc., Hayward, Calif.
Harnischfeger Corp., Milwaukee, Wis.

ASBESTOS, Sheets and Paste

Carey, Philip, Mfg. Co., Cincinnati, Ohio
Greene, Tweed & Co., North Wales, Pa.
Janos Asbestos Co., New York, N. Y.
Johns-Manville Corp., New York, N. Y.
Keasbey & Mattison Co., Ambler, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.

BAND SAW MACHINES

Armstrong-Blum Mfg. Co., Chicago, Ill.
Boice-Crane Co., Toledo, Ohio
Delta Power Tool Division of Rockwell Mfg. Co., Milwaukee, Wis.
DeWalt, Inc., Lancaster, Pa.
DoAll Co., The, Des Plaines, Ill.

VICTOR

Filter-Regulator-Lubricator

For use on air-operated tools and machinery to regulate, lubricate and filter dirt and water out of the air supply. Can be cleaned without removal from line. Oil cup can be filled while operating. For 1/4" and 3/8" pipe.

VICTOR EQUIPMENT CO.

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Duro Metal Products Co., Chicago, Ill.
Eisler Engineering Co., Inc., Newark, N. J.
Foley Mfg. Co., Minneapolis, Minn.
Heston & Anderson, Fairfield, Iowa
Johnson Mfg. Corp., Albion, Mich.
Johnson Manufacturing Corp., New York, N. Y.
Kalamazoo Tank & Silo Co., Machine Tool Division, Kalamazoo, Mich.
Peerless Machine Co., Racine, Wis.
Racine Tool & Machine Co., Racine, Wis.
Simonds Saw and Steel Co., Fitchburg, Mass.
Walker-Turner Co., Inc., Plainfield, N. J.
Wells Manufacturing Corp., Three Rivers, Mich.

BELTS, Abrasive

(See: "Abrasive Belts")

BENDERS—Conduit, Pipe and Tubing

(See also: "Pipe Bending Machines")

Blackhawk Mfg. Co., Milwaukee, Wis.
Durbin-Durco, St. Louis, Mo.
Duro Metal Products Co., Chicago, Ill.
Greenlee Tool Co. (Division of Greenlee Bros. & Co.), Rockford, Ill.
Hossfeld Mfg. Co., Winona, Minn.
Imperial Brass Mfg. Co., The, Chicago, Ill.
National Electric Prods. Co., Pittsburgh, Pa.
O'Neil-Irwin Mfg. Co., Lake City, Minn.
Pandjiris, Weldment Co., St. Louis Mo.
Parker Appliance Co., Inc., The, Cleveland, Ohio
Pedrick Tool & Machine Co., Philadelphia, Pa.
Plomb Tool Co., Los Angeles, Calif.
Tal Bender, Inc., Milwaukee, Wis.
Templeton, Kenly & Co., Chicago, Ill.
Toledo Pipe Threading Machine Co., The, Toledo, Ohio
Wallace Supplies Mfg. Co., Chicago, Ill.
Weatherhead Co., The, Cleveland, Ohio

BENDING BLOCKS

Acorn Iron & Supply Co., Phila., Pa.
Hossfeld Mfg. Co., Winona, Minn.
Stahl Equipment Co., Brookline Village, Mass.

BENDING BRAKES

Airtherm Mfg. Co., St. Louis, Mo.
Barth Mfg. Co., The, Milldale, Conn.
Munton Manufacturing Co., Franklin Park, Ill.
Niagara Machine & Tool Works, Buffalo, N. Y.
O-Neil-Irwin Mfg. Co., Lake City, Minn.
Pyramid Steel Co., Cleveland, Ohio
Service Machine Co., Elizabeth, N. J.
Verson Allsteel Press Co., Chicago, Ill.

BENDING MACHINES, Pipe

(See: "Benders," "Pipe Bending Machines")

BENDING ROLLS

Bethlehem Steel Co., Bethlehem, Pa.
Bissett Steel Co., The, Cleveland, Ohio
Buffalo Forge Co., Buffalo, N. Y.
Cayuga Machine & Fabr. Co., Inc., Depew, N. Y.
Hossfeld Mfg. Co., Winona, Minn.
Kling Bros. Engineering Works, Chicago, Ill.
Niagara Machine & Tool Works, Buffalo, N. Y.
O'Neil-Irwin Mfg. Co., Lake City, Minn.
Pedrick Tool & Machine Co., Philadelphia, Pa.
Service Machine Co., Elizabeth, N. J.
Wallace Supplies Mfg. Co., Chicago, Ill.
Webb Corp., The, Webb City, Mo.

BENDING and STRAIGHTENING MACHINES, for Beam, Rail, Rod or Shaft

Ames Spot Welder Co., Inc., Brooklyn, N. Y.
Baldwin Locomotive Works, The, Philadelphia, Pa.
Blackhawk Mfg. Co., Milwaukee, Wis.
Champion Blower & Forge Co., Lancaster, Pa.
Cleveland Crane & Engineering Co., Wickliffe, Ohio
Dudgeon, Richard, Inc., New York, N. Y.
Hossfeld Mfg. Co., Winona, Minn.
Hydraulic Press Mfg. Co., The, Mount Gilead, Ohio
Kling Bros. Engineering Works, Chicago, Ill.
Meaart Co., The, St. Louis, Mo.
Niagara Machine & Tool Works, Buffalo, N. Y.
Pandjiris Weldment Co., St. Louis, Mo.
Studebaker Machine Co., Maywood, Ill.
Thomas Machine Mfg. Co., Pittsburgh, Pa.
Watson-Stillman Co., The, Roselle, N. J.
Webb Corp., The, Webb City, Mo.

BLACKSMITHS' HAMMERS

American Fork & Hoe Co., Cleveland, Ohio
Champion DeArment Tool Co. Meadville, Pa.
Greene, Tweed & Co., No. Wales, Pa.
Heller Brothers Company, Newark, N. J.
Leetonia Tool Co., The, Leetonia, Ohio
Mayhew Steel Products, Inc., Shelburne Falls, Mass.
Plumb, Fayette R., Inc., Philadelphia, Pa.
Pyramid Steel Co., Cleveland, Ohio

BLOCKS, Chain

Chester Hoist Co., Lisbon, Ohio
Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
Ford Chain Block Division of American Chain & Cable Co., Inc., Philadelphia, Pa.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Division, Muskegon, Mich.
Reading Chain & Block Corp., Reading, Pa.
Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio
Round, David & Son, Cleveland, Ohio
Sasgen Derrick Co., Chicago, Ill.
Wright Mfg. Division of American Chain & Cable Co., Inc., York, Pa.
Yale & Towne Mfg. Co., Philadelphia, Pa.

BOLT and ROD CUTTERS

Aircraft-Marine Products, Inc., Harrisburg, Pa.
Beaver Pipe Tools, Inc., Warren, Ohio
Blackhawk Mfg. Co., Milwaukee, Wis.
Champion De Arment Tool Co., Meadville, Pa.
Manco Mfg. Co., Bradley, Ill.

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4 ft. x 4 ft.—5 ft. x 5 ft.—5 ft. x 6 ft. Also other sizes. Cast steel blocks for layout, welding and assembly. Tools, stands and accessories. Write today for information.

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Delaware Ave. & Poplar St., Philadelphia 23, Pa.

National Machine Tool Co., Racine, Wis.
O'Neil-Irwin Mfg. Co., Lake City, Minn.
Porter, H. K., Inc., Somerville, Mass.
Sandvik Saw & Tool, New York, N. Y.

BRAZING FURNACES

(See also: "Furnaces, Preheating, Annealing, Stress Relieving")

Ajax Electric Co., Inc., Philadelphia, Pa.
Continental Industrial Engineers' Co., Chicago, Ill.
Despatch Oven Co., Minneapolis, Minn.
Eclipse Fuel Engineering Co., Rockford, Ill.
Falcon Equipment Co., New Brighton, Pa.
Gas Appliance Service, Inc., Chicago, Ill.
Hayes, Inc., C. I., Providence, R. I.
Hevi Duty Electric Co., Milwaukee, Wis.
Holcroft & Co., Detroit, Mich.
Holden, A. F., Co., The, Detroit, Mich.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Lepel High Frequency Lab., Inc., New York, N. Y.
Lindberg Engineering Co., Chicago, Ill.
Ohio Crankshaft Co., Cleveland, Ohio
Selas Corp. of America, Philadelphia, Pa.
Sunbeam Industrial Furnace Div., Sunbeam Corp., Chicago, Ill.
Surface Combustion Corp., Toledo, Ohio
Thermo Electric Mfg. Co., Dubuque, Iowa
Vulcan Corp., Philadelphia, Pa.
Westinghouse Electric Corp., Pittsburgh, Pa.
Young Brothers Co., Cleveland, Ohio

BRUSHES, Scratch

(See: "Weld Cleaning Brushes")

BUFFER-GRINDER, Combination

Balmar, Franklin, Corp., Baltimore, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Cincinnati Electric Tool Co., The, Cincinnati, Ohio
Delta Power Tool Division of Rockwell Mfg. Co., Milwaukee, Wis.
Divine Brothers Co., Utica, N. Y.
Duro Metal Products Co., Chicago, Ill.
Hammond Machinery Builders, Inc., Kalamazoo, Mich.
Haskins, R. G., Co., Chicago, Ill.
The Nedco Co., Waltham, Mass.
Skil Corp., Chicago, Ill.
Standard Electric Tool Co., The, Cincinnati, Ohio
Stanley Electric Tools, New Britain, Conn.
Strand, N. A. Div., The Balmar Corp., Chicago, Ill.

BUFFING MACHINES, Electric, Portable

Black & Decker Mfg. Co., The, Towson, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Buckeye Tools Corp., Dayton, Ohio
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Clark, James, Jr., Electric Co., Louisville, Ky.
Hammond Machinery Builders, Inc., Kalamazoo, Mich.
Independent Pneumatic Tool Co., Chicago, Ill.
Mall Tool Co., Chicago, Ill.
Millers Falls Co., Greenfield, Mass.
The Nedco Co., Waltham, Mass.
Rotor Tool Co., Cleveland, Ohio
Skil Corp., Chicago, Ill.
Sterling Tool Products Co., Chicago, Ill.
Stow Manufacturing Co., Inc., Binghamton, N. Y.
Swartz & White Mfg. Co., Binghamton Flexible Shaft Division, Binghamton, N. Y.
Syntron Co., Homer City, Pa.
Thor Power Tool Co., Aurora, Ill.
United States Electrical Tool Co., The, Cincinnati, Ohio
Valley Electric Corp., St. Louis, Mo.
Walker-Turner Co., Plainfield, N. J.
Wodack Electric Tool Corp., Chicago, Ill.

BUFFING MACHINES, Flexible Shaft

Balmar, Franklin, Corp., Baltimore, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Haskins, R. G., Co., Chicago, Ill.
Mall Tool Co., Chicago, Ill.
Porter-Cable Mach. Co., Syracuse, N. Y.
Pratt & Whitney, Div., Niles-Bement-Pond Co., West Hartford, Conn.
Stow Mfg. Co., Inc., Binghamton, N. Y.
Strand, N. A., Div., The Balmar Corp., Chicago, Ill.
Swartz & White Mfg. Co., Binghamton Flexible Shaft Division, Binghamton, N. Y.
United States Electrical Tool Co., The, Cincinnati, Ohio

BUFFING MACHINES, Pneumatic

Aro Equipment Corp., The, Bryan, Ohio
Buckeye Tools Corp., Dayton, Ohio
Cleco Div., Reed Roll Bit Co., Houston, Texas
Divine Brothers Co., Utica, N. Y.
Independeent Pneumatic Tool Co., Chicago, Ill.
Mall Tool Co., Chicago, Ill.
Master Pneumatic Tool Co., Inc., Orwell, Ohio
Paasche Airbrush Co., Chicago, Ill.
Rotor Tool Co., Cleveland, Ohio
Schramm, Inc., Westchester, Pa.
Thor Power Tool Co., Aurora, Ill.

BUFFING and POLISHING COMPOUNDS

Allen, L. B. Co., Inc., Chicago, Ill.
Cantol Wax Co., Bloomington, Ind.
Carborundum Co., Inc., The, Niagara Falls, N. Y.
Divine Brothers Co., Utica, N. Y.
Flux-All Chemical Products, New York, N. Y.
Nu Steel Co., Chicago, Ill.
Oakite Products, Inc., New York, N. Y.
Sonneborn, L., Sons, Inc., New York, N. Y.

BUFFING and POLISHING STATIONARY MACHINES

Acme Mfg. Co., Detroit, Mich.
Baldor Electric Co., St. Louis, Mo.
Black & Decker Mfg. Co., Towson, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Champion Blower & Forge Co., Lancaster, Pa.
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Clark, James, Jr., Electric Co., Louisville, Ky.
Clizbe Bros. Mfg. Co., Plymouth, Ind.
Cutter Machine Co., St. Louis, Mo.
Delta Power Tool Division of Rockwell Mfg. Co., Milwaukee, Wis.
Divine Brothers Co., Utica, N. Y.
Duro Metal Products Co., Chicago, Ill.
Hammond Machinery Builders, Inc., Kalamazoo, Mich.
Independent Pneumatic Tool Co., Chicago, Ill.
Mall Tool Co., Chicago, Ill.
Milwaukee Electric Tool Corp., Milwaukee, Wis.
Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio
Stow Manufacturing Co., Inc., Binghamton, N. Y.
United States Electrical Tool Co., The, Cincinnati, Ohio
Valley Electric Corp., St. Louis, Mo.
Walker-Turner Co., Inc., Plainfield, N. J.

CARBON (Blocks, Paste)

Becker Bros. Carbon Co., Cicero, Ill.
Joseph Dixon Crucible Co., Jersey City, N. J.
National Carbon Div., Union Carbide & Carbon Corp., New York, N. Y.
Ohio Carbon Co., Cleveland, Ohio
Pure Carbon Co., Inc., St. Marys, Pa.
Speer Carbon Co., St. Marys, Pa.
Stackpolt Carbon Co., St. Marys, Pa.

CEMENT, Iron Repair

Hercules Chemical Co., Inc., New York, N. Y.
Smooth-on Mfg. Co., Jersey City, N. J.

CEMENT, Refractory and High Temperature

Armstrong Cork Co., Building Material Div., Lancaster, Pa.
Botfield Refractories Co., Philadelphia, Pa.
Carey, Philip Mfg. Co., The, Cincinnati, Ohio
Dixon, Joseph, Crucible Co., Jersey City, N. J.
Eagle-Picher Co., The, Cincinnati, Ohio
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
General Refractories Co., Philadelphia, Pa.
Green, A. P., Fire Brick Co., Mexico, Mo.
Harbinson-Walker Reefractories Co., Pittsburgh, Pa.
Hercules Chemical Co., Inc., New York, N. Y.
Johns-Manville, New York, N. Y.
Key Co., East St. Louis, Ill.
Laclede-Christy Co., St. Louis, Mo.
Massillon Refractories Co., The, Massillon, Ohio
Mexico Refractories Co., Mexico, Mo.
National Carbon Co., Div. Union Carbide & Carbon Corp., New York, N. Y.
North American Refractories Co., Cleveland, Ohio
Quigley Co., Inc., New York, N. Y.
Smooth-on Manufacturing Co., Jersey City, N. J.

CHAIN, Coil

American Chain Division of American Chain & Cable Co., Inc., York, Pa.
Bridgeport Chain & Mfg. Co., The, Bridgeport, Conn.
Cleveland Chain & Mfg. Co., The, Cleveland, Ohio
Columbus McKinnon Chain Corp., Tonawanda, N. Y.
International Chain & Mfg. Co., York, Pa.
Jeffrey Manufacturing Co., The, Columbus, Ohio
Newhall Chain Forge & Iron Co., Westwood, N. J.
Ryerson, Joseph T., & Sons, Inc., Chicago, Ill.
Taylor, S. G. Chain Co. Hammond, Ind.
Western Chain Co. Chicago, Ill.
Yale & Towne Mfg. Co., The (Philadelphia Division), Philadelphia, Pa.

CHAIN HOISTS

Chester Hoist Div., National Screw & Mfg. Co., The, Lisbon, Ohio
Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
Cleveland Crane & Engineering Co., The, Wickliffe, Ohio
Coffing Hoist Co., Danville, Ill.
Columbus McKinnon Chain Corp., Tonawanda, N. Y.
Conco Engineering Works, Mendota, Ill.
Ford Chain Block Division of American Chain & Cable Co., Inc., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Harrington Co., The, Philadelphia, Pa.
Jeffrey Manufacturing Co., The, Columbus, Ohio
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Division, Muskegon, Mich.
Master Electric Co., The, Dayton, Ohio
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Newhall Chain Forge & Iron Co., Westwood, N. J.
Philadelphia Chain Block & Mfg. Co., Inc., Philadelphia, Pa.
Reading Chain & Block Corp., Reading, Pa.
Robbins & Myers, Inc., Springfield, Ohio
Round, David, and Son, Cleveland, Ohio
Sasgen Derrick Co., Chicago, Ill.
Stephens-Adamson Mfg. Co. Aurora, Ill.
Taylor, S. G. Chain Co., Hammond, Ind.
Wright Hoist Division of American Chain & Cable Co., Inc., York, Pa.
Yale & Towne Mfg. Co., The (Philadelphia Division), Philadelphia, Pa.

CHAIN HOOKS

American Chain Division of American Chain & Cable Co., Inc., York, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Bridgeport Chain & Mfg. Co., Bridgeport, Conn.
Cleveland Chain & Mfg. Co., Cleveland, Ohio
Columbus McKinnon Chain Corp., Tonawanda, N. Y.
Durbin-Durco, St. Louis, Mo.
Laughlin, Thomas, Co., Portland, Me.
McKay Co., The, York, Pa.
Newhall Chain Forge & Iron Co., Westwood, N. J.
Taylor, S. G., Chain Co., Hammond, Ind.
Upson-Walton Co., The, Cleveland, Ohio
Western Chain Co., Chicago, Ill.
Wiese Plow Welding Co., Inc., Perry, Iowa
Williams, J. H., & Co., Buffalo, N. Y.
Yale & Towne Mfg. Co., The (Philadelphia Division), Philadelphia, Pa.

CHAIN SLINGS

Columbus McKinnon Chain Corp., Tonawanda, N. Y.
Hercules Sling Co., Rockford, Ill.
International Chain & Mfg. Co., York, Pa.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Div., Muskegon, Mich.
Newhall Chain Forge & Iron Co., Westwood, N. J.
Olympic Glove Co., Inc., The, New York, N. Y.
Paulson-Webber Cordage Corp., New York, N. Y.
Round, David and Son, Cleveland, Ohio
Taylor, S. G., Chain Co., Hammond, Ind.
Youngstown Welding & Engineering Co., The, Youngstown, Ohio

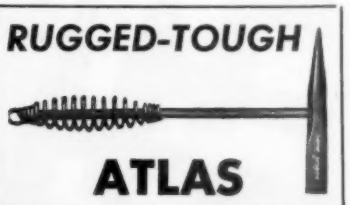
CHIPPERS and PICKS, Scaling

(See: "Chipping & Scaling Hand Hammers")

CHIPPING CHISELS, Hand

Atlas Welding Accessories, Inc., Ferndale, Mich.
Bethlehem Steel Co., Bethlehem, Pa.
Bonney Forge & Tool Works, Allentown, Pa.
Cleco Div. of Reed Roller Bit Co., Houston, Texas
Dallett Co., The, Philadelphia, Pa.
Damascus Steel Products Corp., Rockford, Ill.
Herbrand Tools, Fremont, Ohio
Leetonia Tool Co., The, Leetonia, Ohio
Millers Falls Co., Greenfield, Mass.
Plomb Tool Co., Los Angeles, Calif.
Pyramid Steel Co., Cleveland, Ohio
Quality Tools Corp., New Wilmington, Pa.
Youngstown Welding & Engineering Co., Youngstown, Ohio

RUGGED-TOUGH



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Bethlehem Steel Co., Bethlehem, Pa.
Black & Decker Mfg. Co., The, Towson, Md.
Chicago Pneumatic Tool Co., New York, N. Y.
Cleco Div., Reed Roller Bit Co., Houston, Texas
Dallett Co., The, Philadelphia, Pa.
Damascus Steel Products Corp., Rockford, Ill.
Millers Falls Co., Greenfield, Mass.
Oxford Tool Co., Philadelphia, Pa.
Pyramid Steel Co., Cleveland, Ohio
Quality Tools Corp., New Wilmington, Pa.
Rotor Tool Co., Cleveland, Ohio
Schramm, Inc., West Chester, Pa.
Skil Corp., Chicago, Ill.
Superior Pneumatic Divilson of Herbrand Tools, Cleveland, Ohio
Syntron Co., Homer City, Pa.
Thor Power Tool Co., Aurora, Ill.
Van Dorn Electric Tool Co., The, Towson, Md.
Wen-Lyn Products, Burbank, Calif.

CHIPPING and SCALING HAMMERS (Electric)

Black & Decker Mfg. Co., The, Towson, Md.
Forney Mfg. Co., Ft. Collins, Colo.
Mall Tool Co., Chicago, Ill.
Master Electric Co., The, Dayton, Ohio
Millers Falls Co., Greenfield, Mass.
Pyramid Steel Co., Cleveland, Ohio
Skil Corp., Chicago, Ill.
Stanley Electric Tools, New Britain, Conn.
Syntron Co., Homer City, Pa.
Thor Power Tool Co., Aurora, Ill.
United States Electrical Tool Co., The, Cincinnati, Ohio
Van Dorn Electric Tool Co., The, Towson, Md.
Wodack Electric Tool Corp., Chicago, Ill.

CHIPPING and SCALING HAMMERS (Hand)

Atlas Welding Accessories, Inc., Ferndale, Mich.
Bernard Welding Equip., Chicago, Ill.
Bonney Forge & Tool Works, Allentown, Pa.
Champion DeArment Co., Meadville, Pa.
Chicago Mfg. & Distributing Co., Chicago, Ill.
Churchward Welding Accessories, Jack, North Haven, Conn.
Dallett Co., The, Philadelphia, Pa.
Fairmont Tool and Forging Co., Cleveland, Ohio
Fibre-Metal Products Co., The, Chester, Pa.
Heller Brothers Co., Newark, N. J.
Ideal Industries, Inc., Sycamore, Ill.
Industrial Products Co., Philadelphia, Pa.
Leetonia Tool Co., The, Leetonia, Ohio
Overly, Chas. F., Co., Cleveland, Ohio
Plumb, Fayette R., Inc., Philadelphia, Pa.
Pyramid Steel Co., Cleveland, Ohio

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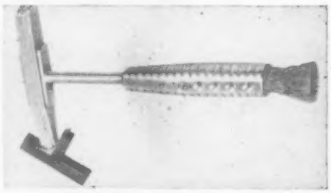
BERNARD MULTI-PIC



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Buckeye Tools Corp., Dayton, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Cleco Div., Reed Roller Bit Co., Houston, Texas
Coast Pneumatic Tool Co., Los Angeles, Calif.
Dallett Co., The, Philadelphia, Pa.
Heller Bros., Co., The, Newark, N. J.
Ideal Industries, Inc., Sycamore, Ill.
Ingersoll-Rand Co., New York, N. Y.
Keller Tool Co., Grand Rapids, Mich.
Master Pneumatic Tool Co., Inc., Orwell, Ohio
Rotor Tool Co., Cleveland, Ohio
Salsbury Corp., Los Angeles, Calif.
Schramm, Inc., West Chester, Pa.
Skil Corp., Chicago, Ill.
Superior Manufacturing Co., Div. of Bingham Herbrand Corp., Cleveland, Ohio
Thor Power Tool Co., Aurora, Ill.
Wen-Lyn Products, Burbank, Calif.

CLAMPS, Adjustable and "C"

Adjustable Clamp Co., Chicago, Ill.
Armstrong Bros. Tool Co., Chicago, Ill.
Atlas Welding Accessories, Inc., Ferndale, Mich.
B M C Mfg. Corp., Binghamton, N. Y.
Bernard Welding Equipment Co., Chicago, Ill.
Billings & Spencer Co., The, Hartford, Conn.
Black Bros. Co., Inc., The, Mendota, Ill.
Blackhawk Mfg. Co., Milwaukee, Wis.
Bonny Forge & Tool Works, Allentown, Pa.
Brown & Sharpe Mfg. Co., Providence, R. I.
Chicago Boiler Co., Chicago, Ill.
Cincinnati Tool Co., The, Cincinnati, Ohio
Duro Metal Products Co., Chicago, Ill.
Foster Aluminum Alloy Prod. Corp., Forestville, N. Y.
Grand Specialties Co., Chicago, Ill.
Jewel Mfg. Co., St. Paul, Minn.
Lapeer Mfg. Co., Lapeer, Mich.
McFerron-Myers Products Co., Cleveland, Ohio
Mechanics Engineering Co., Inc., Jackson, Mich.
National Cylinder Gas Co., Chicago, Ill.
Petersen Mfg. Inc., De Witt, Nebraska
Ragle, J. M., Industries, Kansas City, Mo.
Raesch Tool Products, Los Angeles, Calif.
Sandvik Saw & Tool (Division of Sandvik Steel, Inc.), New York, N. Y.
Seymour Smith & Son, Inc., Oakville, Conn.
Sherman, H. B., Mfg. Co., Battle Creek, Mich.
Siewek Tool Division of Domestic Industries, Inc., Detroit, Mich.
Syracuse Alloy Metals Corp., Syracuse, N. Y.
Wetzler Clamp Co., Long Island City, N. Y.
Williams, J. H., & Co., Buffalo, N. Y.
Wilton Tool Mfg. Co., Chicago, Ill.

CLEANING MACHINES, for Metal Parts

(See also: "Buffing and Polishing Machines")

Ajax Electric Co., Philadelphia, Pa.
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Gray-Mills Corp., Evanston, Ill.
Mall Tool Co., Chicago, Ill.
Optimus Equip. Co., Matawan, N. J.
Pangborn Corp., Hagerstown, Md.
Phillips Mfg. Co., Chicago, Ill.
Stow Mfg. Co., Inc., Binghamton, N. Y.
Vacu-Blast Co., Inc., Belmont, Calif.
Wheelabrator Corp., Mishawaka, Ind.

CLEANING TOOLS

(See: "Weld-Cleaning Tools" or "Weld-Cleaning Brushes")

COATED ABRASIVES—Emery, Garnet, Silicon Carbide, Aluminous Oxide, Paper and Cloths

(See also "Sandpaper," "Emery and Other Abrasives," etc.)

Abrasive Products, Inc., South Braintree, Mass.
Alberton & Co., Sioux City, Iowa
Armour & Co., Alliance, Ohio
Atlas Abrasive Corp., Brooklyn, N. Y.
Bay State Abrasive Products Co., Westboro, Mass.
Behr-Manning Div., Troy, N. Y.
Carborundum Co., The, Niagara Falls, N. Y.
Mid-West Abrasive Co., Owosso, Mich.
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Wisconsin Abrasive Co., Milwaukee, Wis.

COLD CHISELS—Cape, Diamond Point and Round Nose

Bethlehem Steel Co., Bethlehem, Pa.
Billings & Spnecer Co., The, Hartford, Conn.
Blackford Mfg. Co., Inc., Hartford City, Ind.
Blackhawk Mfg. Co., Milwaukee, Wis.
Bonny Forge & Tool Works, Allentown, Pa.
Cincinnati Tool Co., The, Cincinnati, Ohio
Cleco Div. of Reed Roller Bit Co., Houston, Texas
Crescent Tool Co., Jamestown, N. Y.
Dallett Co., The, Philadelphia, Pa.
Damascus Steel Products Corp., Rockford, Ill.
Duro Metal Products Co., Chicago, Ill.
Heller Brothers Company, Newark, N. J.
Kraeuter & Co., Inc., Newark, N. J.
Mayhew Steel Products, Inc., Shelburne Falls, Mass.
Millers Falls Co., Greenfield, Mass.
Owatonna Tool Co., Owatonna, Minn.
Oxford Tool Co., Philadelphia, Pa.
Peck, Stow & Wilcox Co., The, Southampton, Conn. (Cold only)
Plomb Tool Co., Los Angeles, Calif.
Pyramid Steel Co., Cleveland, Ohio
Quality Tools Corp., New Wilmington, Pa.
Sandvik Saw & Tool (Division of Sandvik Steel, Inc.), New York, N. Y.

COMBINATION SQUARES

Stanley Electric Tools Div. of the Stanley Works, New Britain, Conn.

CONTOUR MARKERS

Contour Marker Corp., Compton, Calif.

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Grinding wheel recommendations

Material	Abrasive	Grain	Grade	Bond
ALUMINUM				
Surfacing (cups and cylinders)	C	24	J	V
Surfacing (discs)	C	20	K	B
Portable grinders 5,000–6,500 sfpm	C	24	O	V
Portable grinders 7,000–9,500 sfpm	C	30	O	B
Cutting-off (dry) 9,000–16,000 sfpm	A	24	–	B
Cutting-off (wet) 7,500–12,000 sfpm	A	46	–	R
Cutting-off (Tabor foundry machines)	A	24	–	B
BILLETS (alloy and high-speed steels)				
Portable grinders 5,000–6,500 sfpm	A	20	Q	V
Portable grinders 7,000–9,500 sfpm	A	20	Q	B
BRASS				
Surfacing (cups and cylinders)	C	24	H	V
Surfacing (discs)	C	24	M	B
Cutting-off, gates and risers (dry, Tabor machine) 16,000 sfpm	A	24	–	B
Cutting-off, rod (dry) 9,000–16,000 sfpm	A	30	–	B
Cutting-off, rod (wet) 7,500–12,000 sfpm	A	60	–	R
Cutting-off, tubing (dry) 7,500–12,000 sfpm	A	80	–	R
Cutting-off, tubing (wet) 9,000–16,000 sfpm	A	120	–	R
CAST IRON				
Surfacing (cups and cylinders)	C	16	H	V
	A	60	F	V
Surfacing (discs)	C	16	L	B
	C	24	K	V
Surfacing (straight wheels)	C	30	J	V
Snagging (portable grinder) 5,000–6,500 sfpm	C	24	S	V
Snagging (portable grinder) 7,000–9,500 sfpm	C	20	Q	B
CHILLED IRON				
Surfacing (cups and cylinders)	C	24	H	V
Surfacing (straight wheels)	C	36	I	V
COPPER				
Surfacing (cups and cylinders)	C	14	I	V
Surfacing (discs)	C	36	M	B
Cutting-off, rod (dry)	A	60	–	R
Cutting-off, rod (wet)	A	80	–	R
Cutting-off, tubing (dry)	A	80	–	R
Cutting-off, tubing (wet)	A	120	–	R
Gates and risers (dry, Tabor) 16,000 sfpm	A	24	–	B

Material	Abrasive	Grain	Grade	Bond
MALLEABLE CASTINGS (unannealed)				
Surfacing (discs)	A	20	L	B
MALLEABLE CASTINGS (annealed)				
Portable grinders 5,000–6,500 sfpm	A	20	Q	V
Portable grinders 7,000–9,500 sfpm	A	20	Q	B
STEEL CASTINGS (low-carbon)				
Portable grinders 5,000–6,500 sfpm	A	24	Q	V
Portable grinders 7,000–9,500 sfpm	A	20	Q	B
	A	20	T	R
STEEL CASTINGS (manganese)				
Portable grinders 5,000–6,500 sfpm	A	24	Q	V
Portable grinders 7,000–9,500 sfpm	A	20	Q	B
STEEL (hardened)				
Surfacing (cups and cylinders)	A	30	G	V
Surfacing, roughing (discs)	A	16	K	B
Surfacing, finishing (discs)	A	46	J	B
STEEL (soft)				
Surfacing (cups and cylinders)	A	24	J	V
Surfacing, roughing (discs)	A	16	M	B
Surfacing, finishing (discs)	A	46	K	B
STEEL (high-speed)				
Surfacing (cups and cylinders)	A	46	G	V
Surfacing (straight wheels)	A	46	H	V
	A	60	F	V
STEEL (stainless, free-machining)				
Surfacing (cups and cylinders)	A	36	G	V
Surfacing (straight wheels)	A	46	H	V
Billets and slabs (portable grinders 7,000–9,500 sfpm	A	20	Q	B
	A	24	T	R
WELDS				
Carbon-alloy steels				
Portable grinders 5,000–6,500 sfpm	A	24	Q	V
Portable grinders 7,000–9,500 sfpm	A	16	R	B
Stainless steel				
Portable grinders 7,000–9,500 sfpm	A	24	T	R

From The Grinding Wheel by Kenneth B. Lewis, Grinding Wheel Institute, 1951

COPPERS, Soldering
(See: "Soldering Irons")

COPPERS, Soldering (Electric Heat)
(See: "Soldering Irons Electric")

DEMAGNETIZER

Carboloy Dept., General Electric Co., Detroit, Mich.
Ideal Industries, Inc., Sycamore, Ill.
Magnaflux Corp., Chicago, Ill.
Shrader, F. W., Co., Culver City, Ind.
Stearn Magnetic, Inc., Milwaukee, Wis.

DIES, Bending and Trimming

Carboloy Dept., General Electric Co., Detroit, Mich.
Dahlstrom Manufacturing Co., St. Paul, Minn.
New England Carbide Tool Co., Inc., Cambridge, Mass.
Niagara Machine & Tool Works, Buffalo, N. Y.
Pyramid Steel Co., Cleveland, Ohio
Service Machine Co., Elizabeth, N. J.
Verson Allsteel Press Co., Chicago, Ill.
Vogel Tool & Die Corp., Melrose Park, Ill.
Warren Alloy, Pontiac, Mich.

DIES, Bolt

Armstrong Bros. Tool Co., Chicago, Ill.
Bay State Tap & Die Co., Mansfield, Mass.
Beaver Pipe Tools, Inc., Warren, Ohio
Butterfield Division Union Twist Drill Co., Derby Line, Vt.
Capewell Mfg. Co., The, Hartford, Conn.
Carboloy Dept., General Electric Co., Detroit, Mich.
Card, S. W., Mfg. Co., Division of Union Twist Drill Co., Mansfield, Mass.
Firth Sterling, Inc., Pittsburgh, Pa.
Greenfield Tap & Die Corp., Greenfield, Mass.
Hollands Mfg. Co., Erie, Pa.
Mayhew Steel Products, Inc., Shelburne Falls, Mass.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Nye Tool Co., Chicago, Ill.
Oster Manufactring Co., The, Cleveland, Ohio
Pratt & Whitney Div., Niles-Bement-Pond Co., W. Hartford, Conn.
Reed Manufacturing Co., Erie, Pa.
Ridge Tool Co., The, Elyria, Ohio
Standard Tool Co., Cleveland, Ohio
Toledo Pipe Threading Machine Co., The, Toledo, Ohio
Verson Allsteel Press Co., Chicago, Ill.

DIE STOCK SETS

American Pipe Tool Co., Chicago, Ill.
Armstrong Bros. Tool Co., Chicago, Ill.
Bay State Tap & Die Co., Mansfield, Mass.
Beaver Pipe Tools, Inc., Warren, Ohio
Butterfield Division Union Twist Drill Co., Derby Line, Vt.
Capewell Mfg. Co., The, Hartford, Conn.
Card, S. W. Mfg. Co., Division of Union Twist Drill Co., Mansfield, Mass.
Champion Blower and Forge Co., Lancaster, Pa.
Greenfield Tap & Die Corp., Greenfield, Mass.
Hollands Mfg. Co., Erie, Pa.
Mayhew Steel Products, Inc., Shelburne Falls, Mass.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Nye Tool Co., Chicago, Ill.
Oster Manufacturing Co., The, Cleveland, Ohio
Pratt & Whitney, Div. Niles-Bement-Pond Co., West Hartford, Conn.
Ridge Tool Co., The, Elyria, Ohio
Threadwell Tap & Die Co., Greenfield, Mass.
Toledo Pipe Threading Machine Co., The, Toledo, Ohio

DIPPER TEETH REPOINTERS
(See: "Wedge Bars")

DRILLING MACHINES, Bench

Atlas Press Co., Kalamazoo, Mich.
Black & Decker Mfg. Co., The, Towson, Md.
Blackford Mfg. Co., Inc., Hartford City, Ind.
Boice-Crane Co., Toledo, Ohio
Canedy-Otto Mfg. Co., Chicago Heights, Ill.
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Delta Power Tool Division of Rockwell Mfg. Co., Milwaukee, Wis.
Duro Metal Products Co., Chicago, Ill.
Famco Machine Co., Racine, Wis.
Hamilton Tool Co., The, Hamilton, Ohio
Independent Pneumatic Tool Co., Chicago, Ill.
Skil Corp., Chicago, Ill.
Standard Electrical Tool Co., The, Cincinnati, Ohio
Studebaker Machine Co., Chicago, Ill.
Thor Power Tool Co., Aurora, Ill.
Walker-Turner Co., Inc., Plainfield, N. J.

DRILLING MACHINES—Breast, Chain and Hand

Black & Decker Mfg. Co., The, Towson, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Duro Metal Products Co., Chicago, Ill.
Millers Falls Co., Greenfield, Mass.
Skil Corp., Chicago, Ill.
Standard Electrical Tool Co., The, Cincinnati, Ohio
Thor Power Tool Co., Aurora, Ill.

DRILLS, Blacksmiths'

Ace Drill Corp., Detroit, Mich.
Besly-Welles Corp., Beloit, Wis.
Buffalo Forge Co., Buffalo, N. Y.
Champion Blower & Forge Co., Lancaster, Pa.
Chicago Latrobe Twist Drill Works, Chicago, Ill.
Clark Equipment Co., Buchanan, Mich.
Cleveland Twist Drill Co., The, Cleveland, Ohio
Morse Twist Drill and Machine Co., New Bedford, Mass.
National Twist Drill & Tool Co., Rochester, Minn.
Standard Tool Co., Cleveland, Ohio
Threadwell Tap & Die Co., The, Greenfield, Mass.
Union Twist Drill Co., Athol, Mass.
Whitman & Barnes, Detroit, Mich.

DRILLS, Electric, Portable

Albertson & Co., Inc., Sioux City, Iowa
Black & Decker Mfg. Co., The, Towson, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Buckeye Tools Corp., Dayton, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Clark, James, Jr., Electric Co., Louisville, Ky.
Cummins-Chicago Corp., Chicago, Ill.
Duro Metal Products Co., Chicago, Ill.
Gaston Power Tools, Chicago, Ill.
Haskins, R. G., Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.
Mall Tool Co., Chicago, Ill.
Millers Falls Co., Greenfield, Mass.
Milwaukee Electric Tool Corp., Milwaukee, Wis.
Misener Mfg. Co., Inc., Syracuse, N. Y.
Portable Electric Tools, Inc., Chicago, Ill.
Porter Cable Machine Co., Syracuse, N. Y.
Rotor Tool Co., The, Cleveland, Ohio
Skil Corp., Chicago, Ill.
Speedway Mfg. Co., Cicero, Ill.
Standard Electric Tool Co., The, Cincinnati, Ohio
Stanley Electrical Tools, New Britain, Conn.
Stow Manufacturing Co., Inc., Binghamton, N. Y.
Syntron Company, Homer City, Pa.
Thor Power Tool Co., Aurora, Ill.
United States Electrical Tool Co., The, Cincinnati, Ohio
Van Dorn Electric Tool Co., The, Towson, Md.
Wodack Electric Tool Corp., Chicago, Ill.

DRILL-GRINDING ATTACHMENT

Atlas Press Co., Kalamazoo, Mich.
Delta Power Tool Div., Rockwell Mfg. Co., Milwaukee, Wis.
Dumore Co., Racine, Wis.
Hisely-Wolf Machine Co., Cincinnati, Ohio
McBurney, A. D., Los Angeles, Calif.
Millers Falls Co., Greenfield, Mass.
Skil Corp., Chicago, Ill.
Standard Elec. Tool Co., The, Cincinnati, Ohio

DRILLS, Pneumatic, Portable

Bellows Co., Akron, Ohio
Black & Decker Mfg. Co., The, Towson, Md.
Buckeye Tools Corp., Dayton, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Cleco Div., Reed Roller Co., Houston, Tex.
Dallett Co., The, Philadelphia, Pa.
Ingersoll-Rand Co., New York, N. Y.
Joy Mfg. Co., Pittsburgh, Pa.
Keller Tool Co., Grand Haven, Mich.
Mall Tool Co., Chicago, Ill.
Master Penumatic Tool Co., Inc., Orwell, Ohio
Rotor Tool Co., Cleveland, Ohio
Skil Corp., Chicago, Ill.
Thor Power Tool Co., Aurora, Ill.
Van Dorn Tool Co., Towson, Md.

DRILLS, Twist

Ace Drill Corp., Detroit, Mich.
Ampco Twist Drill Co., Jackson, Mich.
Bay State Tap & Die Co., Mansfield, Mass.
Besly-Welles Corp., Beloit, Wis.
Chicago Latrobe Twist Drill Works, Chicago, Ill.
Clark Equipment Co., Buchanan, Mich.
Cleveland Twist Drill Co., The, Cleveland, Ohio
Cogsdill Twist Drill Co., Detroit, Mich.
Do All Co., The, Des Plaines, Ill.
Greenfield Tap & Die Corp., Greenfield, Mass.
Herbrand Tools, Fremont, Ohio
Morse Twist Drill & Machine Co., New Bedford, Mass.
National Twist Drill & Tool Co., Rochester, Minn.
Pratt & Whitney, Div. Niles-Bement-Pond Co., West Hartford, Conn.
Ragle, J. M., Industries, Kansas City, Mo.
Republic Drill & Tool Co., Chicago, Ill.
Standard Tool Co., Cleveland, Ohio
Threadwell Tap & Die Co., Greenfield, Mass.
Union Twist Drill Co., Athol, Mass.
Vascoloy-Ramet Corp., Waukegan, Ill.
Whitman & Barnes, Detroit, Mich.

DROP FORGED HOIST HOOKS

American Chain Division of American Chain & Cable Co., Inc., York, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Billings & Spencer Co., Hartford, Conn.
Cleveland Chain & Mfg. Co., Cleveland, Ohio
Columbus-McKinnon Chain Corp., Tonawanda, N. Y.
Ford Chain Block Division of American Chain & Cable Co., Inc. Philadelphia, Pa.
Laughlin, Thomas Co., Portland, Me.
McKay Co., The, York, Pa.
Newhall Chain Forge & Iron Co., Westwood, N. J.
Roebling's John A., Sons Co., Trenton, N. J.
Taylor, S. G., Chain Co., Hammond, Ind.
Upson-Walton Co., The, Cleveland, Ohio
Wickwire Spencer Steel Division, The Colorado Fuel & Iron Corp., Buffalo, N. Y.
Wilcox, Crittenden & Co., Inc., Middletown, Conn.
Williams, J. H., & Co., Buffalo, N. Y.
Yale & Towne Mfg. Co. The (Philadelphia Division), Philadelphia, Pa.

ELECTRIC HOISTS

American Hoist & Derrick Co., St. Paul, Minn.
Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
Coffing Hoist Co., Danville, Ill.
Columbus-McKinnon Chain Corp., Tonawanda, N. Y.
Conco Engineering Works, Mendota, Ill.
Detroit Hoist & Machine Co., Detroit, Mich.
Ford Chain Block Division of American Chain & Cable Co., Inc., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Harrington Co., The, Philadelphia, Pa.
Ingersoll-Rand Co., New York, N. Y.
Jeffrey Manufacturing Co., The, Columbus, Ohio
Joy Mfg. Co., Pittsburgh, Pa.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Division, Muskegon, Mich.
Master Electric Co., The, Dayton, Ohio
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Northern Engineering Works, Detroit, Mich.
Reading Chain & Block Corp., Reading, Pa.
Revolvator Co., North Bergen, N. J.
Robbins & Meyers, Inc., Springfield, Ohio
Round, David and Son, Cleveland, Ohio
Sasgen Derrick Co., Chicago, Ill.
Stearns-Roger Mfg. Co., Denver, Colo.
Stephens-Adamson Mfg. Co., Aurora, Ill.
Stryco Mfg. Co., San Francisco, Calif.
Whiting Corp., Harvey, Ill.
Wright Hoist Division of American Chain & Cable Co., Inc., York, Pa.
Yale & Towne Mfg. Co., The (Philadelphia Division) Philadelphia, Pa.

ELECTRIC and PNEUMATIC PORTABLE SAWS

Black & Decker Mfg. Co., The, Towson, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Cummins-Chicago Corp., Chicago, Ill.
Heston & Anderson, Fairfield, Iowa
Ingersoll-Rand Co., New York, N. Y.
Mall Tool Co., Chicago, Ill.
Mid-States Welder Mfg. Co., Chicago, Ill.
Millers Falls Co., Greenfield, Mass.
Milwaukee Electric Tool Corp., Milwaukee Wis.
Skil Corp., Chicago, Ill.
Stanley Electric Tools, New Britain, Conn.
Thor Power Tool Co., Aurora, Ill.
Van Dorn Electric Tool Co., Towson, Md.
Wysenbeek & Staff, Inc., Chicago, Ill.

ELECTRODE CARRIERS

Aljay Manufacturing Co., Inc., Philadelphia, Pa.
American Oxygen Service Corp., Harrison, N. J.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Boyer-Campbell Co., The, Detroit, Mich.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Ergolyte Mfg. Co., Philadelphia, Pa.
Fibre-Metal Prod. Co., Chester, Pa.
Industrial Prod. Co., Philadelphia, Pa.
Kimball Safety Prod. Co., Cleveland, Ohio
Metal & Thermit Corp., N. Y. 17, N. Y.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
S. C. Leather Co., Pittsburgh, Pa.
Safety Clothing & Equip. Co., Cleveland, Ohio
Singer Glove Mfg. Co., Chicago, Ill.
Singer Leather Clothing Co., Philadelphia, Pa.
Tillman & Co., John, Long Beach, Cal.

ELECTRODE-DRYING OVENS

Archer, Fred C., Inc., Milwaukee, Wis.
Authauser Bros. Co., New York, N. Y.
Despatch Oven Co., Minneapolis, Minn.
Grieve & Hendry Co., Inc., Chicago, Ill.
Phoenix Products Co., Milwaukee, Wis.
Ross, J. O., Engineering Co., New York, N. Y.
Steiner-Ives Co., Newark, N. J.
Young Bros. Co., Cleveland, Ohio

ELECTRODE-STORAGE OVENS

Archer, Fred C., Inc., Milwaukee, Wis.
Despatch Oven Co., Minneapolis, Minn.
Lewis Welding & Engrg. Corp., Bedford, Ohio
Grieve-Hendry Co., Chicago, Ill.
Phoenix Products Co., Milwaukee, Wis.
Westinghouse Electrict Corp., Pittsburgh, Pa.

EMERY and Other Abrasives

Abrasive Products, Inc., South Braintree, Mass.
Armour Sandpaper Works, Chicago, Ill.
Bay State Abrasive Products, Westboro, Mass.
Behr-Manning Div., Troy, N. Y.
Carborundum Co., The, Niagara Falls, N. Y.
Chicago Wheel & Mfg. Co., Chicago, Ill.
Haskins, R. G., Co., Chicago, Ill.
Hoffman, R. W. Co., Chicago, Ill.
Macklin Co., Jackson, Mich.
Michigan Abrasive Co., Detroit, Mich.
Mid-West Abrasive Co., Owosso, Mich.
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Norton Co., Worcester, Mass.
Simonds Worden White Co., Dayton, Ohio

EXTRACTORS, Bolt and Screw

Bonny Forge & Tool Works, Allentown, Pa.
Chicago Latrobe Twist Drill Works, Chicago, Ill.
Cleveland Twist Drill Co., The, Cleveland, Ohio
Duro Metal Products Co., Chicago, Ill.
Greenfield Tap & Die Corp., Greenfield, Mass.
Owatonna Tool Co., Owatonna, Minn.
Plomb Tool Co., Los Angeles, Calif.
Quality Tools Corp., New Wilmington, Pa.
Ridge Tool Co., The, Elyria, Ohio (Also pipe.)
Standard Tool Co., Cleveland, Ohio
Whitman & Barnes, Detroit, Mich.

FILES

Aro Equipment Corp., The, Bryan, Ohio
Atkins & Co., E. C., Indianapolis, Ind.
Carson-Newton Co., Belleville, N. J.
Delta File Works, Inc., Philadelphia, Pa.
Disston, Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
DoAll Co., The, Des Plaines, Ill.
Dremel Mfg. Co., Racine, Wis.
Elliot Mfg. Co., New York, N. Y.
Flint Prod. Co., Brooklyn, N. Y.
Ford, M. A., Mfg. Co., Inc. Davenport, Iowa
Graham Rotary File & Tool Co., Philadelphia, Pa.
Grobet File Co. of America, New York, N. Y.
Haskins, R. G., Co., Chicago, Ill.
Heller Brothers Co., Newark, N. J.
Ideal Industries, Inc., Sycamore, Ill.
Jarvis, Charles L., Middletown, Conn.
Nicholson File Co., Providence, R. I.
Plumb, Fayette R., Inc., Philadelphia, Pa.
Pratt & Whitney, Div. Niles-Bement-Pond Co., West Hartford, Conn.
Stow Mfg. Co., Binghamton, N. Y.
Strand, N. A., Div. The Balmar Corp., Chicago, Ill.

FILE CLEANERS

Cincinnati Tool Co., The, Cincinnati, Ohio
Disston, Henry, & Son, Inc., Tacony, Philadelphia, Pa.
Heller Brothers Company, Newark, N. J.
Knudson, E. C., Chicago, Ill.
Lutz File & Tool Co., Cincinnati, Ohio
Manufacturers Brush Co., The, Cleveland, Ohio
Nicholson File Co., Providence, R. I.

FILE HOLDERS

Disston, Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
Nicholson File Co., Providence, R. I.
Plomb Tool Co., Los Angeles, Calif.
Remont Mfg. Co., Lombard, Ill.
Swiss Laboratory, Cleveland, Ohio

FIRE BRICK

Armstrong Cork Co., Building Material Div., Lancaster, Pa.
Botfield Refractories Company, Philadelphia, Pa.
Carborundum Co., The, Niagara Falls, N. Y.
Cleveland Quarries Co., The, Cleveland, Ohio
General Refractories, Co., Philadelphia, Pa.
Green, A. P., Fire Brick Co., Mexico, Mo.
Harbison-Walker Refractories Co., Pittsburgh, Pa.
Johns-Manville, New York, N. Y.
Laclede-Christy Co., St. Louis, Mo.
Massillon Refractories Co., The, Massillon, Ohio
Mexico Refractories Co., Mexico, Mo.
Niles Fire Brick Co., The, Niles, Ohio
North American Refractories Co., Cleveland, Ohio
Norton Co., Worcester, Mass.
Plibrico Jointless Firebrick Co., Chicago, Ill.
Quigley Company, Inc., New York, N. Y.

FIRE BRICK CEMENT

Armstrong Cork Co., Building Material Div. Lancaster, Pa.
Botfield Refractories Co., Philadelphia, Pa.
Green Co., A. P., Mexico, Mo.
Johns-Manville, New York, N. Y.
Laclede-Christy Co., St. Louis, Mo.
North American Refractories Co., Cleveland, Ohio
Norton Co., Worcester, Mass.
Wagner Mfg. Co., Inc., Jackson, Mo.

FIRE POTS, Solder Iron—Gasoline, Kerosene, Gas

Aeroil Products Co., Inc., So. Hackensack, N. J.
Clayton & Lambert Mfg. Co., Louisville, Ky.
Diener, Geo. W., Mfg. Co., Chicago, Ill.
Eclipse Fuel Engineering Co., Rockford, Ill.
Falcon Equipment Co., New Brighton, Pa.
General Propane Gas, Mineola, N. Y.
Goss Gas, Inc., Glenshaw, Pa.
Hauck Mfg. Co., Brooklyn 15, N. Y.
Hollands Mfg. Co., Erie, Pa.
Insto-Gas Corp., Detroit, Mich. (Also Bottled Gas.)
Johnson Gas Appliance Co., Cedar Rapids, Iowa

FITTINGS, Pipe Welding

(See: "Welding Fittings")

FIXTURES, Welding

(See: "Jigs and Fixtures," and "Positioners")

FLANGING MACHINES

Barth Mfg. Co., The, Milldale, Conn.
Kling Bros. Engineering Works, Chicago, Ill.
McCabe Mfg. Co., Lawrence, Mass.
Niagara Mach. & Tool Works, Buffalo, N. Y.
Tube Turns, Inc., Louisville, Ky.

FLEXIBLE SHAFTS

Albertson & Co., Inc., Sioux City, Iowa
Balmar, Franklin, Corp., Baltimore, Md.
Duro Metal Products Co., Chicago, Ill.
Elliott Manufacturing Co., Binghamton, N. Y.
Haskins, R. G., Co., Chicago, Ill.
Jefferson Engineering & Mfg. Co., Detroit, Mich.
Jeffrey Mfg. Co., The, Columbus, Ohio
Mall Tool Co., Chicago, Ill.
Master Electric Co., The, Dayton, Ohio
Pratt & Whitney Div. Niles-Bement-Pond Co., West Hartford, Conn.
Stow Mfg. Co., Binghamton, N. Y.
Strand, N. A., Div. The Balmar Corp., Chicago, Ill.
Swartz & White Mfg. Co., Binghamton Flexible Shaft Division, Binghamton, N. Y.
United States Electrical Tool Co., The, Cincinnati, Ohio
Walker-Turner Co., Inc., Plainfield, N. J.

FLEXIBLE SHAFT MACHINES

Albertson & Co., Sioux City, Iowa
Balmar, Franklin Corp., Baltimore, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Dumore Co., The, Racine, Wis.
Duro Metal Products Co., Chicago, Ill.
Elliott Manufacturing Co., Binghamton, N. Y.
Foredom Electric Co., New York, N. Y.
Haskins, R. G., Co., Chicago, Ill.
Ideal Industries, Inc., Sycamore, Ill.
Jarvis, Chas. L., Co., Middletown, Conn.
Jefferson Engineering & Mfg. Co., Detroit, Mich.
Mall Tool Co., Chicago, Ill.
Master Vibrator Co., Dayton, Ohio
Pratt & Whitney Div., Niles-Bement-Pond Co., West Hartford, Conn.
Stow Mfg. Co., Inc., Binghamton, N. Y.
Strand, N. A., Div. The Balmar Corp., Chicago, Ill.
Swartz & White Mfg. Co., Binghamton Flexible Shaft Division, Binghamton, N. Y.
United States Electrical Tool Co., The, Cincinnati, Ohio
Walker-Turner Co., Inc., Plainfield, N. J.
Wyzenbeek & Staff, Inc., Chicago, Ill.

FLEXIBLE SHAFT SANDERS

Balmar, Franklin Corp., Baltimore, Md.
Elliott Mfg. Co., Binghamton, N. Y.
Haskins, R. G., Co., Chicago, Ill.
Hoffman, R. W. Co., Inc., Chicago, Ill.
Jarvis, Chas. L., Co., Middletown, Conn.
Mall Tool Co., Chicago, Ill.
Pratt & Whitney Div., Niles-Bement-Pond Co., W. Hartford, Conn.
Stow Mfg. Co., Binghamton, N. Y.
Strand, N. A., Div., The, Balmar Corp., Chicago, Ill.
Wyzenbeek & Staff, Inc., Chicago, Ill.

FLUE and TUBE CUTTERS

American Pipe Tool Co., Chicago, Ill.
Calder Mfg. Co., Lancester, Pa.
Parker Appliances Co., The, Cleveland, Ohio
Vincent Steel Process Co., Detroit, Mich.
Vogel Tool & Die Corp., Melrose Park, Ill.

FOLDING RULES

Atlas Welding Accessories Co., Ferndale, Mich.
Brown & Sharpe Mfg. Co., Providence, R. I.
Carlson Rules & Measures, Monrovia, Calif.
Greene, Tweed & Co., North Wales, Pa.
Keuffel & Esser Co., Hoboken, N. J.
Lufkin Rule Co., The, Saginaw, Mich.
Master Rule Mfg. Co., Inc., White Plains, N. Y.
Millers Falls Co., Greenfield, Mass.
Niagara Machine & Tool Works, Buffalo, N. Y.
Stanley Electrical Tools, New Britain, Conn.
Starrett, E. S., Co., The, Athol, Mass.

FORGES, Brazing, Saw

Buffalo Forge Co., Buffalo, N. Y.
Champion Blower & Forge Co., Lancaster, Pa.
Eclipse Fuel Engineering Co., Rockford, Ill.
Farrelloy Co., Philadelphia, Pa.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Sunbeam Stewart Industrial Furnace Division, Sunbeam Corp., Chicago, Ill.

FORGES, Portable

Buffalo Forge Co., Buffalo, N. Y.
Champion Blower & Forge Co., Lancaster, Pa.
Eclipse Fuel Engineering Co., Rockford, Ill.
Mahr Mfg. Co., Div. Diamond Iron Works, Inc., Minneapolis, Minn.
R. S. Products Corp., Philadelphia, Pa.
Sunbeam-Stewart Furnace Division, Sunbeam Corp., Chicago, Ill.

FURNACES, Preheating, Annealing Stress-Relieving

(See also: "Brazing Furnaces")

Ajax Electric Co., Inc., Philadelphia, Pa.
Ajax Electrothermic Corp., Trenton, N. J.
Combustion Control Corp., Cambridge, Mass. (Stress-Relieving only)
Commerce Pattern Foundry & Machine Co., Detroit, Mich.
Continental Industrial Engineers' Co., Chicago, Ill.
Despatch Oven Co., Minneapolis, Minn.
Eclipse Fuel Engineering Co., Rockford, Ill.
Falcon Equipment Co., New Brighton, Pa.
Forney Mfg. Co., Fort Collins, Colo.
Gas Appliance Service, Inc., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Hayes, Inc., C. I., Providence, R. I.
Hevi Duty Electric Co., Milwaukee, Wis.
Holcroft & Co., Detroit, Mich.
Holden, A. F., Co., The, Detroit, Mich.
Induction Heating Corp., Brooklyn, N. Y.
Johnson Gas Appliance Co., Cedar Rapids, Iowa
Lepel High Frequency Lab., Inc., New York, N. Y.
Lindberg Engineering Co., Chicago, Ill.
Mahr Mfg. Co., Div. of Diamond Iron Works, Inc., Minneapolis, Minn.
Massillon Refractories Co., The, Massillon, Ohio
Metal Bond Mfg. Co., St. Louis, Mo.
RS Products Corp., Philadelphia, Pa.
Selas Corp. of America, Philadelphia, Pa.
Standard Research Inc., New Haven, Conn.
Sunbeam Industrial Furnace Div., Sunbeam Corp., Chicago, Ill.
Surface Combustion Corp., Toledo, Ohio
Thermo Electric Mfg. Co., Dubuque, Iowa
Unique Mfg. Co., Inc., Chicago, Ill.
Vulcan Corp., Philadelphia, Pa.
Westinghouse Electric Corp., Pittsburgh, Pa.
Young Brothers Co., Cleveland, Ohio

GAMMA-RAY EQUIPMENT

(See: "Inspection Equipment, Gamma-Ray" and "Radium Inspection")

GEARED HOISTS

Chester Hoist Div., National Screw & Mfg. Co., The, Lisbon, Ohio
Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
Coffing Hoist Co., Danville, Ill.
Columbus-McKinnon Chain Corp., Tonawanda, N.Y.
Conco Engineering Works, Mendota, Ill.
Harnischfeger Corp., Milwaukee, Wis.
Harrington Co., The, Philadelphia, Pa.
Hewitt-Robins, Inc., Stamford, Conn.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane and Hoist Division, Muskegon, Mich.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Northern Engineering Works, Detroit, Mich.
Philadelphia Chain Block & Mfg. Co., Inc., Philadelphia, Pa.
Reading Chain & Block Corp., Reading, Pa.
Robbins & Meyers, Inc., Springfield, Ohio
Round, David, and Son, Cleveland, Ohio
Sasgen Derrick Co., Chicago, Ill.
Stryco Mfg. Co., Francisco, Calif.
Whiting Corp., Harvey, Ill.
Wright Hoist Division of American Chain & Cable Co., Inc., York, Pa.
Yale & Towne Mfg. Co., The (Philadelphia Division), Philadelphia, Pa.

GEARED TROLLEY HOISTS

Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
Cleveland Crane & Engineering Co., Wickliffe, Ohio
Coffing Hoist Co., Danville, Ill.
Columbus-McKinnon Chain Corp., Tonawanda, N. Y.
Conco Engineering Works, Mendota, Ill.
Detroit Hoist & Machine Co., Detroit, Mich.
Ford Chain Block Division of American Chain & Cable Co., Inc., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Harrington Co., The, Philadelphia, Pa.
Industrial Equipment Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Div., Muskegon, Mich.
Master Electraic Co., The, Dayton, Ohio
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Northern Engineering Works, Detroit, Mich.
Philadelphia Chain Block & Mfg. Co., Inc., Philadephia, Pa.
Reading Chain & Block Corp., Reading, Pa.
Robbins & Meyers, Inc., Springfield, Ohio
Round, David, and Son, Cleveland, Ohio
Stryco Mfg. Co., San Francisco, Calif.
Whiting Corp., Harvey, Ill.

Wright Hoist Division of American Chain & Cable Co., Inc., York, Pa.
Yale & Towne Mfg. Co., The (Philadelphia Division). Philadelphia, Pa.

GRINDERS, Bench and Floor

Albertson & Co., Sioux City, Iowa
Aro Equipment Corp., The, Bryan, Ohio
Atlas Press Co., Kalamazoo, Mich.
Baldor Electric Co., St. Louis, Mo.
Balmar, Franklin, Corp., Baltimore, Md.
Black & Decker Mfg. Co., The, Towson, Md.
Blackford Mfg. Co., Inc., Hartford City, Ind.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Champion Blower and Forge Co., Lancaster, Pa.
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Clark, James, Jr., Electric Co., Louisville, Ky.
Clizbe Bros. Mfg. Co., Plymouth, Ind.
Cutter Machine Co., St. Louis, Mo. (Floor only)
Delta Power Tool Division of the Rockwell Mfg. Co., Milwaukee, Wis.
Do-All Co., The, Racine, Wis.
Dumore Co., The, Racine, Wis.
Foley Mfg. Co., Minneapolis, Minn.
Hammond Machinery Builders, Inc., Kalamazoo, Mich.
Hisey-Wolf Mach. Co., The, Cincinnati, Ohio
Kling Bros. Engineering Works, Chicago, Ill.
Master Electric Co., The, Dayton, Ohio
Millers Falls Co., Inc., Greenfield, Mass.
Misener Mfg. Co., Inc., Syracuse, N. Y.
Nu-Matic Grinders, Inc., Cleveland, Ohio
Peterson Welding Laboratories, Kansas City, Mo.
Porter-Cable Mach. Co., Syracuse, N. Y.
Ryman Engineering Co., Inc., Ellwood City, Pa.
Skil Corp., Chicago, Ill.
Speedway Mfg. Co., Cicero, Ill.
Standard Electrical Tool Co., The, Cincinnati, Ohio
Stanley Electric Tools, New Britain, Conn.
Stow Manufacturing Co., Inc., Binghamton, N. Y.
Thor Power Tool Co., Aurora, Ill.
United States Electrical Tool Co., The, Cincinnati, Ohio
Valley Electric Corp., St. Louis, Mo.
Walker-Turner Co., Inc., Plainfield, N. J.

GRINDERS, Electric Portable

Baldor Electric Co., St. Louis, Mo.
Balmar, Franklin, Corp., Baltimore, Md.
Black & Decker Mfg. Co., The, Towson, Md.
Buckeye Tools Corp., Dayton, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Chicago Wheel & Mfg. Co., Chicago, Ill.
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Dremel Manufacturing Co., Racine, Wis.
Elliott Mfg. Co., Binghamton, N. Y.
Erico Products Inc., Cleveland, Ohio
Haskins, R. G., Co., Chicago, Ill.
Hisey-Wolf Machine Co., Cincinnati, Ohio
Lee, K. O., Co., Aberdeen, S. D.
Mall Tool Co., Chicago, Ill.
Master Pneumatic Tool Co., Inc., Orwell, Ohio
McGonegal Manufacturing Co., The, East Rutherford, N. J.
Miller Falls Co., Greenfield, Mass.
Milwaukee Electric Tool Corp., Milwaukee, Wis.
The Nedco Co., Waltham, Mass.
Nu-Matic Grinders, Inc., Cleveland, Ohio
Portable Electric Tools, Inc., Chicago, Ill.
Porter-Cable Mfg. Co., Syracuse, N. Y.
Rotor Tool Co., Cleveland, Ohio
Skil Corp., Chicago, Ill.
Speedway Mfg. Co., Cicero, Ill.
Stanley Electric Tools, New Britain, Conn.
Stow Manufacturing Co., Inc., Binghamton, N. Y.
Thor Power Tool Co., Aurora, Ill.
United States Electrical Tool Co., The, Cincinnati, Ohio
Wodack Electric Tool Corp., Chicago, Ill.
Wyzenbeek & Staff, Inc., Chicago, Ill.

GRINDERS, Flexible Shaft

Albertson & Co., Sioux City, Iowa
Balmar, Franklin, Corp., Baltimore, Md.
Bradford Machine Tool Co., The, Cincinnati, Ohio
Duro Metal Products Co., Chicago, Ill.
Elliott Mfg. Co., Binghamton, N. Y.
Haskins, R. G. Co., Chicago, Ill.
Mall Tool Co., Chicago, Ill.
Master Electric Co., The, Dayton, Ohio
Master Vibrator Co., Dayton, Ohio
Nu-Matic Grinders, Inc., Cleveland, Ohio
Stow Mfg. Co., Inc., Binghamton, N. Y.
Strand, N. A., Div., The Balmar Corp., Chicago, Ill.
Swartz & White Mfg. Co., Binghamton Flexible Shaft Division, Binghamton, N. Y.
United States Electrical Tool Co., The, Cincinnati, Ohio
Walker-Turner Co., Inc., Plainfield, N. J.
Wyzenbeek & Satff, Inc., Chicago, Ill.

GRINDERS, Pneumatic, Portable

Aro Eqiupment Corp., The, Bryan, Ohio
Buckeye Tools Corp., Dayton, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Cleco Div., Reed Roller Bit Co., Houston, Texas
Independent Pneumatic Tool Co., Aurora, Ill.
Ingersall-Rand Co., New York, N. Y.
Keller Tool Co., Grand Haven, Mich.
M-B Products, Detroit, Mich.
Mall Tool Co., Chicago, Ill.
Master Pneumatic Tool Co., Inc., Orwell, Ohio
Nu-Matic Grinders, Inc., Cleveland, Ohio
Robertson Mfg. Co., Morrisville, Pa.
Rotor Tool Co., Cleveland, Ohio
Sheldon Machine Co., Chicago, Ill.
Thor Power Tool Co., Aurora, Ill.

GRINDING WHEELS

Bay State Abrasive Products Co., Westboro, Mass.
Behr-Manning Div., Troy, N. Y.
Besly-Welles Corp., Beloit, Wis.
Bridgeport Safety Emery Wheel Co., Inc., The, Bridgeport, Conn.
The Carborundum Co., Niagara Falls, N. Y.
Chicago Wheel & Mfg. Co., Chicago, Ill.
Cincinnati Milling Machine Co., Grinding Wheels Div., Cincinnati 9, Ohio
Colonial Abrasive Products Co., Conshohocken, Pa.
Cortland Grinding Wheels Corp., Chester, Mass.
Cratex Mfg. Co., San Francisco, Calif.
de Sanno, A. P., & Son, Inc., Phoenixville, Pa.
Hoffman, R. W., Co., Inc., Chicago, Ill.
Macklin Co., Jackson, Mich.
Metal Removal Co., Chicago, Ill.
Mid-West Abrasive Co., Owasso, Mich.
Norton Co., Worcester, Mass.
Nu-Matic Grinders, Inc., Cleveland, Ohio
Peninsular Grinding Wheel Co., The, Detroit, Mich.
Precision Grinding Wheel Co., Inc., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Robertson Mfg. Co., Morrisville, Pa.
Sandusky Abrasive Wheel Co., Kalamazoo, Mich.
Simonds Abrasive Co., Philadelphia, Pa.
Simonds Worden White Co., Dayton, Ohio
Sterling Grinding Wheel Div., of the Cleveland Quarries Co., Tiffin, Ohio
Universal Wheel & Abrasive Corp., Chicago, Ill.
Weldon Roberts Rubber Co., Newark, N. J.
Wisconsin Abrasive Co., Milwaukee, Wis.

GRINDING WHEEL DRESSERS

Black & Decker Mfg. Co., The Towson, Md.
Calder Mfg. Co., Lancaster, Pa.
Carboloy Dept., General Electric Co., Detroit, Mich.
Collmer Bros., South Bend, Ind.
Desmond-Stephan Mfg. Co., Urbana, Ohio
DoAll Co., The, Des Plaines, Ill.
Macklon Co., Jackson, Mich.
Pratt & Whitney Div., Niles-Bement-Pond Co., West Hartford, Conn.
Standard Elec. Tool Co., The, Cincinnati, Ohio
Standard Tool Co., Cleveland, Ohio
Vincent Steel Process Co., Detroit, Mich.
Willey's Carbide Tool Co., Detroit, Mich.
Wisconsin Abrasive Co., Milwaukee, Wis.

GRIT-BLASTING EQUIPMENT

Metallizing Co., of America, Inc., Chicago, Ill.
Metallizing Engineering Co., Inc., Long Island City, N. Y.
Persons Engr. Corp., Cleveland, Ohio
Ruemelin Mfg. Co., Milwaukee, Wis.
Vacu-Blast Co., Inc., Belmont, Calif.
Wheelabrator Corp., Mishawaka, Ind.

HACK SAW MACHINES

Armstrong-Blum Mfg. Co., Chicago, Ill.
Johnson Mfg. Co., New York, N. Y.
Mid-States Welder Mfg. Co., Chicago, Ill.
Peerless Machine Co., Racine, Wis.
Racine Tool & Machine Co., Racine, Wis.
Sales Service Machine Tool Co., St. Paul, Minn.
Skil Corp., Chicago, Ill.
Syntron Co., Homer City, Pa.
Thor Power Tool Co., Aurora, Ill.
Wells Manufacturing Corp., Three Rivers, Mich.
Wyzenbeek & Staff, Inc., Chicago, Ill.

HACK SAWS (Hand Blades)

American Saw & Mfg. Co., Springfield, Mass.
Armstrong-Blum Mfg. Co., Chicago, Ill.
Atkins, E. C. and Co., Indianapolis, Ind.
Barnes, W. O., Co., Inc., Detroit, Mich.
Blackhawk Mfg. Co., Milwaukee, Wis.
Bonny Forge & Tool Works, Allentown, Pa.
Capewell Mfg. Co., The, Hartford, Conn.
Clemson Bros., Middletown, N. Y.
Crescent Tool Co., Jamestown, N. Y.
Diamond Saw Works, Inc., Buffalo, N. Y.
Disston Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
DoAll Co., The, Des Plaines, Ill.
Forsberg Mfg. Co., The, Bridgeport, Conn.
Griffin, G. W., Co., Franklin, N. H.
McBurney, A. D., Los Angeles, Calif.
Owatonna Tool Co., Los Angeles, Calif.
Racine Tool & Machine Co., Racine, Wis.
Simonds Saw and Steel Co., Fitchburg, Mass.
Spartan Saw Works, Inc., Springfield, Mass.
Starrett, L. S., Co., The, Athol, Mass.
Thompson, Henry G. & Son, Co., The, New Haven, Conn.
Victor Saw Works, Inc., Middletown, N. Y.

HANDLES—Adze, Axe, Hammer & Hatchet, Etc.

American Handle Co., Jonesboro, Ark.
Bonny-Forge & Tool Works, Allentown, Pa.
Bruner-Ivory Handle Co., Hope, Ark.
Gallup-Ruffing Handle Co., The, Norwalk, Ohio
Herbrand Tools, Fremont, Ohio
Link, O. P., Handle Co., Salem, Ind.
Plomb Tool Co., Los Angeles, Calif.
Plumb, Fayette R., Inc., Philadelphia, Pa.

HANDLES—File, Chisel, Punch, Etc.

American Stamping Co., Battle Creek, Mich.
Atlas Welding Accessories Co., Ferndale, Mich.
Bonney Forge & Tool Works, Allentown, Pa.
Disston, Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
Gallup-Ruffing Handle Co., The, Norwalk, Ohio. (Bit brace handles and knobs).
Heller Brothers Co., Newark, N. J.
Link, O. P., Handle Co., Salem, Ind.
Lutz File & Tool Co., Cincinnati, Ohio
Nicholson File Co., Providence, R. I.
Parker-Kalon Corp., New York, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Plomb Tool Co., Los Angeles Calif.
Quality Tool Corp., New Wilmington, Pa.
Remont Mfg. Co., Lombard, Ill.
Syracuse Alloy Metals Corp., Syracuse, N. Y.
Wolverine Tool Co., Detroit, Mich.

HAND PUNCHES

Blackhawk Mfg. Co., Milwaukee, Wis.
Blum, Julius & Co., Inc., New York, N. Y.
Bonny Forge & Tool Works, Allentown, Pa.
Buffalo Forge Co., Buffalo, N. Y.
C-B Tool Co., Lancaster, Pa.
Cincinnati Tool Co., The, Cincinnati, Ohio
Crescent Tool Co., Jamestown, N. Y.
Herbrand Tools, Fremont, Ohio
Kraeuter & Co., Inc., Newark, N. J.
Lapeer Mfg. Co., Detroit, Mich.
Mayhew Steel Products, Inc., Shelburne Falls, Mass.
National Machine Tool Co., Racine, Wis.
Niagara Machine & Tool Works, Buffalo, N. Y.
O'Neil Irwin Mfg. Co., Lake City, Minn.
Owatonna Tool Co., Owatonna, Minn.
Oxford Tool Corp., Philadelphia, Pa.
Parker-Kalon Corp., New York, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Plomb Tool Co., Los Angeles, Calif.
Quality Tools Corp., New Wilmington, Pa.
Whitney, W. A., Mfg. Co., Rockford, Ill.
Williams, J. H., & Co., Buffalo, N. Y.

HARDNESS-TESTING EQUIPMENT

American Machine & Metals, Inc., East Moline, Ill.
Ames, B. C., Co., Waltham, Mass.
Baldwin-Lima-Hamilton Corp., Philadelphia, Pa.
Buehler, Ltd., Chicago, Ill.
Detroit Testing Machine Co., Detroit, Mich.
Eastern Welding Equipment Co., New York, N. Y.
Gordon Claud S. Co., Chicago, Ill.
Industrial Overlay Metals, Eaton, Ohio
Riehle Testing Machine Div., American & Metals, Inc., East Moline, Ill.
Steel City Testing Machines, Inc., Detroit, Mich.
Wilson Mechanical Instrument Co., Inc., New York, N. Y.

HEAT-TREATING METAL SALTS

American Cyanamid Co., New York, N. Y.
Holden, A. E., Co., The, New Haven, Conn.
Standard Research Inc., New Haven, Conn.

HOISTING CRABS

American Hoist & Derrick Co., St. Paul, Minn.
Cleveland Crane & Engineering Co., The Wickliffe, Ohio
Grand Specialties Co., Chicago, Ill.
Northern Engineering Works, Detroit, Mich.
Round, David & Son, Cleveland, Ohio
Sasgen Derrick Co., Chicago, Ill.
Wright Hoist Div. of Amer. Chain & Cable Co., Inc., York, Pa.

HOLE SAWS

Anderson Corp., Worcester, Mass.
Armstrong-Blum Mfg. Co., Chicago, Ill.
Aro Equipment Corp., The, Towson, Md.
Black & Decker Mfg. Co., The, Towson, Md.
Disston, Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
Millers Falls Co., Greenfield, Mass.
Misener Manufacturing Co., Inc., Syracuse, N. Y.
Porter-Cable Machine Co., Syracuse, N. Y.
Skil Corp., Chicago, Ill.
Stanley Electric Tools, Div. of the Stanley Works, New Britain, Conn.
Stow Mfg. Co., Binghamton, N. Y.
Thor Power Tool Co., Aurora, Ill.
U. S. Electrical Tool Co., Cincinnati, Ohio
Van Dorn Electric Tool Co., Towson, Md.

Safe Grinding Wheel Speeds

IT IS good practice to operate a grinding wheel as near to the speed recommended by the maker as possible. In general, for cylindrical grinding, wheels should be run from 5,500 to 6,500 surface feet per minute; for surface grinding from 4,000 to 6,000 s.f.p.m.; for cutter grinding from 4,500 to 6,000 s.f.p.m. and for wet tool grinding from 5,000 to 6,000 s.f.p.m. Other speeds are given in Table I.

After you have found the recommended wheel speed at the periphery, as given in Table I, the problem arises of determining the wheel diameter for a given grinder speed (revolutions per minute). The arithmetic has been performed for you in Table II. Find the proper peripheral speed above one of the columns and run down the column until you reach the nearest rpm to your grinder speed. The safe diameter of the grinding wheel can then be found in the columns at extreme left or extreme right.

Example: For snagging a weld with a resinoid wheel, recommended peripheral speed is 7,000 s.f.p.m. With a grinder speed of 4,400 rpm, the wheel diameter should be 6 in. (figures shown in rectangles).

The grain, grade and structure usually recommended for any certain operation are based on the assumption that approximately the recommended speed will be employed. If for some reason this is not possible, then the grade at least should be changed to conform to the different speed. Too slow a speed means wastage of abrasive without too much useful work in return, whereas an excessive speed may result in hard grinding action and may introduce the danger of the wheel breaking through centrifugal force* or burning the work.

Table I. Recommended Wheel Speeds in Surface Feet per Minute

Tool and cutter grinding	4,500- 6,000
Cylindrical grinding	5,500- 6,500
Internal grinding	2,000- 6,000
Snagging, offhand grinding (vitrified wheels)	5,000- 6,000
Snagging (rubber and resinoid wheels)	7,000- 9,500
Surface grinding	4,000- 6,000
Knife grinding	3,500- 4,500
Hemming cylinders	2,100- 5,500†
Wet tool grinding	5,000- 6,000
Cutting wheels	4,000- 5,000
Cutting-off wheels (rubber, resinoid and shellac)	9,000-16,000†

†This higher speed is recommended only where bearings, protection devices and machine rigidity are adequate.

*"Centrifugal force" is the force that tends to rupture a given wheel when overspeeding. It increases as the square of the velocity of the wheel. For example, the centrifugal force in a wheel running at 5,500 s.f.p.m. is 49% greater than in the same wheel running 4,500 s.f.p.m., although the speed is actually only 22% greater.

Table II. Peripheral Speed Converted to Revolutions per Minute and Wheel Diameter

Dia. of Wheel in Inches	Peripheral Speed in Feet per Minute															Dia. of Wheel in Inches
	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500	9,000	9,500	10,000	12,000	14,000	16,000	
	Revolutions per Minute																
1	15,279	17,189	19,098	21,008	22,918	24,828	26,737	28,647	30,558	32,467	34,377	36,287	38,196	45,836	53,474	61,116	1
2	7,639	8,594	9,549	10,504	11,459	12,414	13,368	14,328	15,278	16,238	17,188	18,143	19,098	22,918	26,737	30,558	2
3	5,093	5,729	6,366	7,003	7,639	8,276	8,913	9,549	10,186	10,822	11,459	12,115	12,732	15,278	17,826	20,372	3
4	3,820	4,297	4,775	5,252	5,729	6,207	6,685	7,162	7,640	8,116	8,595	9,072	9,549	11,459	13,368	15,278	4
5	3,056	3,438	3,820	4,202	4,584	4,966	5,348	5,730	6,112	6,494	6,876	7,258	7,640	9,168	10,696	12,224	5
6	2,546	2,865	3,183	3,501	3,820	4,138	4,456	4,775	5,092	5,411	5,729	6,048	6,366	7,639	8,913	10,186	6
7	2,183	2,455	2,728	3,001	3,274	3,547	3,820	4,092	4,366	4,538	4,911	5,183	5,456	6,548	7,640	8,732	7
8	1,910	2,148	2,387	2,626	2,865	3,103	3,342	3,580	3,820	4,058	4,297	4,535	4,775	5,729	6,685	7,640	8
10	1,528	1,719	1,910	2,101	2,292	2,483	2,674	2,865	3,056	3,247	3,438	3,629	3,820	4,584	5,348	6,112	10
12	1,273	1,432	1,591	1,751	1,910	2,069	2,228	2,386	2,546	2,705	2,864	3,023	3,183	3,820	4,456	5,092	12
14	1,091	1,228	1,364	1,500	1,637	1,773	1,910	2,046	2,182	2,319	2,455	2,592	2,728	3,274	3,820	4,366	14
16	955	1,074	1,194	1,313	1,432	1,552	1,672	1,791	1,910	2,029	2,149	2,268	2,387	2,865	3,342	3,820	16
18	849	955	1,061	1,167	1,273	1,379	1,485	1,591	1,698	1,803	1,910	2,016	2,122	2,546	2,970	3,396	18
20	764	859	955	1,050	1,146	1,241	1,337	1,432	1,528	1,623	1,719	1,814	1,910	2,292	2,674	3,056	20
22	694	781	868	955	1,042	1,128	1,215	1,302	1,388	1,476	1,562	1,649	1,736	2,084	2,430	2,776	22
24	637	716	796	875	955	1,034	1,115	1,194	1,274	1,353	1,433	1,512	1,591	1,910	2,228	2,546	24
26	588	661	734	808	881	955	1,028	1,101	1,176	1,248	1,322	1,395	1,468	1,762	2,056	2,352	26
28	546	614	682	750	818	887	955	1,023	1,092	1,159	1,228	1,296	1,364	1,637	1,910	2,182	28
30	509	573	637	700	764	828	891	955	1,018	1,082	1,146	1,210	1,274	1,528	1,782	2,036	30
32	477	537	597	656	716	776	836	895	954	1,014	1,074	1,134	1,194	1,432	1,672	1,910	32
34	449	505	562	618	674	730	786	843	898	955	1,011	1,067	1,124	1,348	1,572	1,796	34
36	424	477	530	583	637	690	742	795	848	902	954	1,007	1,061	1,273	1,484	1,698	36
38	402	452	503	553	603	653	704	754	804	854	904	955	1,006	1,206	1,408	1,608	38
40	382	430	478	525	573	620	669	716	764	812	860	908	956	1,146	1,338	1,528	40
42	366	409	454	500	545	591	636	682	732	775	818	863	908	1,090	1,272	1,464	42
44	347	390	434	478	521	564	608	651	694	737	780	824	868	1,042	1,216	1,388	44
46	333	375	416	458	500	541	582	624	666	708	750	791	832	1,000	1,164	1,332	46
48	318	358	398	438	478	517	558	597	636	676	716	756	796	956	1,116	1,272	48
53	288	324	360	395	432	468	503	539	576	612	648	683	720	864	1,006	1,152	53
60	255	287	319	350	387	414	446	478	510	542	574	606	638	774	892	1,020	60
72	212	239	265	291	318	345	371	398	424	451	477	504	530	637	742	849	72

To find the peripheral speed of a wheel in feet per minute (S.F.P.M.), multiply the circumference in feet by the wheel revolutions per minute.

$$\text{S.F.P.M. of wheel} = \frac{\text{Diameter in inches} \times 3.14 \times \text{R.P.M.}}{12}$$

To find the number of revolutions per minute (R.P.M.) of the wheel spindle given the peripheral speed (S.F.P.M.) and the diameter of the wheel, multiply the peripheral speed in feet per minute by 12, and divide the product by 3.14 times the diameter of wheel in inches.

$$\text{R.P.M. of wheel spindle} = \frac{\text{S.F.P.M.} \times 12}{3.14 \times \text{diameter in inches}}$$

Courtesy Norton Company

INDUCTION-BRAZING EQUIPMENT

Ajax Electrothermic Corp., Trenton, N. J.
Ecco High Frequency Corp., North Bergen, N. J.
Electric Arc, Inc., Newark, N. J.
Federal Electric Co., Inc., Chicago, Ill.
Federal Telephone and Radio Corp., New York, N. Y.
Gordon Co., Claud S., Chicago, Ill.
Illinois Tool Works Electronics Div., Chicago, Ill.
Induction Heating Corp., Brooklyn, N. Y.
Lepel High Frequency Labs., Inc., New York, N. Y.
Lindberg Engineering Co., Chicago, Ill.
Marion Electrical Instrument Co., Manchester, N. H.
Ohio Crankshaft Co., The, Tocco Div., Cleveland, Ohio
Westinghouse Elec. Corp., Pittsburgh, Pa.

INDUSTRIAL WHEELS

Dico Corp., Des Moines, Iowa
Motor Wheel Co., Lansing, Mich.
Neilson Wheel Co., Milwaukee, Wis.
Osborn Mfg. Co., The, Cleveland, Ohio
Thomas Truck & Caster Co., Keokuk, Iowa
Young, C. W., Mfg. Co., Syracuse, N. Y.

INSERTS, Tungsten Carbide

American Manganese Steel Co., Chicago Heights, Ill.
Carboloy Dept., General Electric Co., Detroit, Mich.
Haynes Stellite Co., Kokomo, Ind.
Permalatem Welding Alloys, Inc., Red Bank, N. J.
Purnell Alloy Co., Angleton, Texas
Stoody Co., Whittier, Calif.
Vascoloy-Ramet Corp., Waukegan, Ill.

INSPECTION, Dye Penetrant

Magnaflux Corp., Chicago, Ill.
Met-L-Chek Co., Los Angeles, Calif.
Turco Products, Inc., Los Angeles, Calif.

INSPECTION EQUIPMENT, Fluorescent

Benjamin Electric Mfg. Co., Des Plaines, Ill.
Eisler Engineering Co., Inc., Newark, N. J.
General Electric Co., X-Ray Div., Milwaukee, Wis.
Magnaflux Corp., Chicago, Ill.
St. John X-Ray Laboratory, Califon, N. J.
Westinghouse Electric Corp., Pittsburgh, Pa.

INSPECTION EQUIPMENT, Gamma Ray

Metal & Thermit Corp., Rahway, N. J.
St. John X-Ray Laboratory, Califon, N. J.
Tracerlab Inc., Boston, Mass.
Westinghouse Electric Corp., Pittsburgh, Pa.

INSPECTION EQUIPMENT, Magnetic-Particle

Magnaflux Corp., Chicago, Ill.
Sonoflux Corp., Houston, Texas
Westinghouse Electric Corp., Pittsburgh, Pa.

INSPECTION EQUIPMENT, Radium

Canadian Radium & Uranium Corp., New York, N. Y.
Kelley-Koett Mfg. Co., The, Covington, Ky.
Lewis Welding & Engrg. Corp., Bedford, Ohio
Radium Chemical Co., Inc., New York, N. Y.
St. John X-Ray Laboratory, Califon, N. J.
Westinghouse Electric Corp., Pittsburgh, Pa.

INSPECTION EQUIPMENT Ultrasonic

Dice, J. W. Co., Englewood, N. J.
Electrocircuits, Inc., Pasadena, Calif.
Magnaflux Corp., Chicago, Ill.
Sperry Products, Inc., Danbury, Conn.
Triplett & Barton, Inc., Burbank, Calif.
Westinghouse Electric Corp., Pittsburgh, Pa.

INSPECTION EQUIPMENT, X-Ray

Andreasen, Holger, Inc., San Francisco, Calif.
Balteau Electric Corp., Stamford, Conn.
Bar-Ray Products, Inc., Brooklyn, N. Y.
Chicago Tool & Engineering Co., Chicago, Ill.
Claude S. Gordon Co., Chicago, Ill.
E. I. duPont de Nemours & Co., Inc., Pattern Screen Div., Towanda, Pa.
General Electric Co., X-Ray Div., Milwaukee, Wis.
Holger Andreasen, Inc., San Francisco, Calif.
Kelley-Koett Mfg. Co., The, Covington, Ky.
Lewis Welding & Engrg. Corp., Bedford, Ohio
Machinery & Welder Corp., Chicago, Ill.
Machlett Laboratories, Inc., Springdale, Conn.
North American Philips Co., Inc., New York, N. Y.
Pako Corp., Minneapolis, Minn.
Picker X-Ray Corp., New York, N. Y.
Radium Chemical Co., Inc., New York, N. Y.
Ray Proof Corp., New York, N. Y.
St. John X-Ray Laboratory, Califon, N. J.
St. John X-Ray Service, Inc., Long Island City, N. Y.
Standard X-Ray Co., Chicago, Ill.
Triplett & Barton, Inc., Burbank, Calif.
Westinghouse Electric Corp., Pittsburgh, Pa.

INSTRUMENTS, Training Aids

Automatic Temperature Control Co., Inc., Philadelphia, Pa.
Bristol Co., The, Waterbury, Conn.
Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
Rapidesign, Inc., Glendale, Calif.
Rubicon Co., Philadelphia, Pa.

JIGS and FIXTURES, Welding

Acro Welder Mfg. Co., Milwaukee, Wis.
Allied Weld-Craft, Inc., Indianapolis, Ind.
Aronson Machine Co., Arcade, N. Y.
Automatic Welding Co., Tulsa, Okla.
Automatic Welding Co., Elm Grove, Wis.
Banner Mfg. Co., Milwaukee, Wis.
Bentley Weldery, Inc., Syracuse, N. Y.
Bunell Machine & Tool Co., Cleveland, Ohio
Cayuga Machine & Fabr. Co., Inc., Depew, N. Y.
Dahlstrom Manufacturing Co., St. Paul, Minn.
Dalhart Eng. & Mfg. Co., Inc., Van Dyke, Mich.
Eisler Engineering Co., Inc., Newark, N. J.
Federal Machine & Welder Co., The, Warren, Ohio
Garfield Engineering Corp., Kansas City, Mo.
Gouran, Mark F., Philadelphia, Pa.
Haynes Stellite Co., Kokomo, Ind.
Hedstrom Industries, Inc., Chicago, Ill.
Herrick Co., C. B., Cleveland, Ohio
Layne-Held Corp., Higginsville, Mo.
Lewis Welding & Engrg. Corp., Bedford, Ohio
Martin Electric Co., Detroit, Mich.
McFerron-Myers Prod. Co., Cleveland, Ohio
McHale Mfg. Co., Los Angeles, Calif.
Morton Mfg. Co., Muskegon Heights, Mich.
Multi-Hydromatic Welding & Mfg. Co., East Detroit, Mich.
Pandjiris Weldment Co., St. Louis, Mo.
Peck, Cecil C., Co., Cleveland, Ohio
Penn Tool & Machine Co., Danville, Ill.
Progressive Welder Sales Co., Detroit, Mich.
Ransome Machinery Co., Dunellen, N. J.
Rapid-Titan Mfg. Co., Grand Rapids, Mich.
Resistance Welder Corp., Detroit, Mich.
Sciaky Bros., Inc., Chicago, Ill.
Service Machine Co., Elizabeth, N. J.
Smith Bros. & Hughes, San Diego, Cal.
S-M-S Corp., Detroit, Mich.
Stoody Co., Whittier, Calif.
Swift Electric Welder Co., Detroit, Mich.
Unique Equipment, Inc., Brooklyn, N. Y.
Vangtronic Corp., The, Bridgeport, Conn.
Warren Alloy, Pontiac, Mich.
Webb Corp., Webb City, Mo.
Welding Machines Mfg. Co., Detroit, Mich.
Wolverine Tool Co., Detroit, Mich.

LADLES, Metal Melting, Pouring and Skimming

American Car and Foundry Co., New York, N. Y.
Bernz, Otto, Co., Inc., Rochester, N. Y.
Clayton & Lambert Mfg. Co., Louisville, Ky.
Diener, Geo. W., Mfg. Co., Chicago, Ill.
Dixon, Joseph, Crucible Co., Jersey City, N. J.
Eclipse Fuel Engineering Co., Rockford, Ill.
General Detroit Corp., The, Detroit, Mich.
General Scientific Equip. Co., Philadelphia, Pa.
Hollands Mfg. Co., Erie, Pa.
Peck, Stow & Wilcox Co., Southington, Conn. (Metal melting only.)
Phoenix Products Co., Milwaukee, Wis.
Salem Tool Co., The, Salem, Ohio
Syracuse Alloy Metals Corp., Syracuse, N. Y.
Unique Mfg. Co., Inc., Chicago, Ill.
Whiting Corp., Harvey, Ill.

LIGHTS, Portable Acetylene

American Oxygen Service Corp., Harrison, N. J.
Linde Air Products Co., New York, N. Y.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Milburn, Alexander, Inc., Baltimore, Md.
Modern Engineering Co., St. Louis, Mo.

LOCATORS

(See: "Welding Guides and Supports")

MACHINISTS' HAMMERS

American Fork & Hoe Co., Cleveland, Ohio
Billings & Spencer Co., The, Hartford, Conn.
Blackhawk Mfg. Co., Milwaukee, Wis.
Bonney Forge & Tool Works, Allentown, Pa.
Capewell Manufacturing Co., The, Hartford, Conn.
Champion deArment Co., Meadville, Pa.
Do-All Co., The, Des Plaines, Ill.
Duro Metal Products Co., Chicago, Ill.
Herbrand Tools, Fremont, Ohio
Ideal Industries, Inc., Sycamore, Ill.
Mayhew Steel Products, Inc., Shelburne Falls, Mass.
New Britain Machine Co., The, New Britain, Conn.
Peck, Stow & Wilcox Co., Southington, Conn.
Plumb Tool Co., Los Angeles, Calif.
Plumb, Fayette R., Inc., Philadelphia, Pa.
Skil Corp., Chicago, Ill.
Williams, J. H. & Co., Buffalo, N. Y.

MAGNIFIERS, Inspection Heads

Boyer-Campbell Co., Detroit, Mich.
Brush Development Co., The, Cleveland, Ohio
Flood Safety Products Co., Chicago, Ill.
General Scientific Equipment Co., Philadelphia, Pa.
Pennsylvania Optical Co., Reading, Pa.
RCA Engineering Products Dept., Camden, N. J.
Stanley Electric Tools, New Britain

MALLETS, Rubber and Composition Head

Chicago Rawhide Mfg. Co., Chicago, Ill.
Goodrich, B. F., Co., The, Akron, Ohio
Goodyear Tire & Rubber Co., Inc., The, Akron, Ohio
Homer Rubber Co., Trenton, N. J.
Link, O. P., Handle Co., Salem, Ind.
Quaker Rubber Corp., Philadelphia, Pa.
Quality Tools Corp., New Wilmington, Pa.
Republic Rubber Division, Lee Rubber & Tire Corp., Youngstown, Ohio
United States Rubber Co., New York, N. Y.

MEASURING TAPES

Carlson Rules & Measures, Monrovia, Calif.
Dietzgen, Eugene Co., Chicago, Ill.
Keuffel & Esser Co., Hoboken, N. J.
Lufkin Rule Co., The, Saginaw, Mich.
Master Rule Mfg. Co., Inc., New York, N. Y.
Omicron Co., The, Glendale, Calif.
Starrett, L. S., Co., The, Athol, Mass.

METAL CLEANERS

American Welding Alloys Corp., Brooklyn, N. Y.
Best Effect Chemical Co., Inc., Hackensack, N. J.
Carbide & Carbon Chemicals Corp., Unit of Union Carbide & Carbon Corp., New York, N. Y.
Colonial Alloys Co., Philadelphia, Pa.
Diversey Corp., The, Metal Industries Dept., Chicago, Ill.
E. I. DuPont de Nemours & Co., Inc., Wilmington, Del.
Eclipse Fuel Engineering Co., Rockford, Ill.
Gumm, Fred, Chem. Co., Inc., Kearney, N. J.
Haas Miller Corp., Philadelphia, Pa.
Hollingshead, R. M., Corp., Camden, N. J.
Houghton, E. F., & Co., Philadelphia, Pa.
Kelite Products, Inc., Los Angeles, Calif.
Klem Chemicals, Inc., Dearborn, Mich.
Krembs & Co., Chicago, Ill.
MacDermid, Inc., Waterbury, Conn.
NuSteel Co., Chicago, Ill.
Oakite Products, Inc., New York, N. Y.
Optimus Equipment Co., The, Matawan, N. J.
Pacific Hardware & Steel Co., Inc., San Jose, Calif.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Philadelphia Quartz Co., Philadelphia, Pa.
Phillips Mfg. Co., Chicago, Ill.
Quaker Chemical Prod. Corp., Conshohocken, Pa.
Solventol Chemical Products, Inc., Detroit, Mich.
Standard Research, Inc., New Haven 13, Conn.
Standard Supply Co., New Haven, Conn.
Thermacote Co., Los Angeles, Calif.
Turco Products, Inc., Los Angeles, Calif.
Waverly Petroleum Products Co., Philadelphia, Pa.
Wayne Chemical Prod. Co., Detroit, Mich.
Wolfe-Kote Co., Sheboygan, Wis.
Wyandotte Chemicals Corp., Wyandotte, Mich.

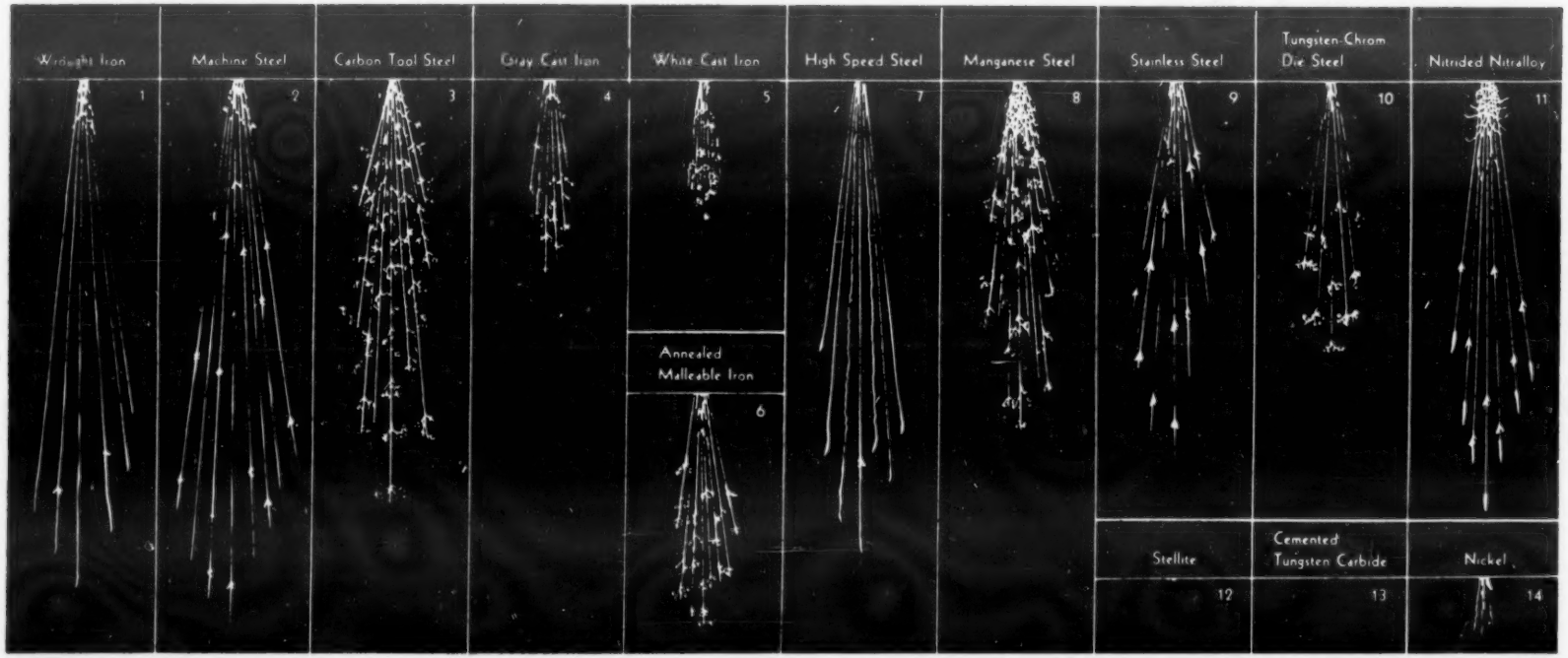
METAL-CUTTING BAND SAW BLADES

Armstrong-Blum Mfg. Co., Chicago, Ill.
Atkins, E. C. & Co., Indianapolis, Ind.
Capewell Mfg. Co., The, Hartford, Conn.
Clemson Bros., Inc., Middletown, N. Y.
Delta Power Tool Div., Rockwell Mfg. Co., Milwaukee, Wis.
Disston, Henry & Sons, Inc., Tacony, Philadelphia, Pa.
DoAll Co., The, Des Plaines, Ill.
Famco Machine Co., Racine, Wis.
Foley Mfg. Co., Minneapolis, Minn.
Griffin, G. W., Co., Franklin, N. H.
Millers Falls Co., Greenfield, Mass.
Simonds Saw & Steel Co., Fitchburg, Mass.
Skil Corp., Chicago, Ill.
Spartan Saw Works, Inc., Springfield, Mass.
Starrett Co., The, L. S. Athol, Mass.
Thompson, Henry G. & Son Co., The, New Haven, Conn.
Wells Mfg. Corp., Three Rivers, Mich.

METAL-CUTTING CIRCULAR SAWS

Atkins, E. C., and Co., Indianapolis, Ind.
Black & Decker Mfg. Co., The, Towson, Md.
Blackford Mfg. Co., Inc., Hartford, Ind.
Brown & Sharpe Mfg. Co., Providence, R. I.
Campbell Machine Division, Am. Chain & Cable Co., Inc., Bridgeport, Conn.

Characteristics of Sparks Generated by the Grinding of Metals



	Metal	Volume of Stream	Relative Length of Stream, Inches†	Color of Stream Close to Wheel	Color of Streaks Near End of Stream	Quantity of Spurts	Nature of Spurts	
1.	Wrought iron	Large	65	Straw	White	Very few	Forked	1.
2.	Machine steel	Large	70	White	White	Few	Forked	2.
3.	Carbon tool steel	Moderately large	55	White	White	Very many	Fine, repeating	3.
4.	Gray cast iron	Small	25	Red	Straw	Many	Fine, repeating	4.
5.	White cast iron	Very small	20	Red	Straw	Few	Fine, repeating	5.
6.	Annealed mall. iron	Moderate	30	Red	Straw	Many	Fine, repeating	6.
7.	High speed steel	Small	60	Red	Straw	Extremely few	Forked	7.
8.	Manganese steel	Moderately large	45	White	White	Many	Fine, repeating	8.
9.	Stainless steel	Moderate	50	Straw	White	Moderate	Forked	9.
10.	Tungsten-chromium die steel	Small	35	Red	Straw*	Many	Fine, repeating	10.
11.	Nitrided Nitralloy	Large (curved)	55	White	White	Moderate	Forked	11.
12.	Stellite	Very small	10	Orange	Orange	None		12.
13.	Cemented tungsten carbide	Extremely small	2	Light Orange	Light Orange*	None		13.
14.	Nickel	Very small**	10	Orange	Orange	None		14.
15.	Copper, brass, aluminum	None				None		15.

†Figures obtained with 12" wheel on bench stand and are relative only. Actual length in each instance will vary with grinding wheel, pressure, etc. *Blue-white spurts. **Some wavy streaks.

(Reprinted from (Norton Co.) "Grits and Grinds" June 1940)

Curtis Pneumatic Machinery, Div. of Curtis Mfg. Co., St. Louis, Mo.
Delta Power Tool Co., Rockwell Mfg. Co., Milwaukee, Wis.
DeWalt, Inc., Lancaster, Pa.
Disston Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
DoAll Co., The, Des Plaines, Ill.
Foley Mfg. Co., Minneapolis, Minn.
Gorham Tool Co., Detroit, Mich.
Kett Tool Co., Cincinnati, Ohio
Kling Bros. Engineering Works, Chicago, Ill.
Midwest Tool & Mfg. Co., Detroit, Mich.
Morse Twist Drill & Machine Co., New Bedford, Mass.
National Twist Drill & Tool Co., Rochest, Mich.
Ohlen-Bishop Mfg. Co., Columbus, Ohio
Portable Electric Tools, Inc., Chicago, Ill.
Porter-Cable Machine Co., Syracuse, N. Y.
Reltool Corp., Milwaukee, Wis.
Simonds Saw and Steel Co., Fitchburg, Mass.
Skil Corp., Chicago, Ill.
Starrett Co., The, L. S., Athol, Mass.

METAL-CUTTING MACHINES

American Pullmax Co., Inc., Chicago, Ill.
Baker Bros., Inc., Toledo, Ohio
Barth Mfg. Co., The, Milldale, Conn.
Black & Decker Mfg. Co., The, Towson, Md.
Brown & Sharpe Mfg. Co., Providence, R. I.
Buckeye Tools Corp., Dayton, Ohio
C-B Tool Co., Lancaster, Pa.
Campbell Machine Div., American Chain & Cable Co., West Bridgeport, Conn.
Clark, Robert H., Co., Los Angeles, Calif.
DoAll Co., The, Des Plaines, Ill.
Famco Machine Co., Racine, Wis.
Kling Bros. Engineering Works, Chicago, Ill.
National Machine Tool Co., Racine, Wis.
Niagara Machine & Tool Works, Buffalo, N. Y.
O'Neil-Irwin Mfg. Co., Lake City, Minn.
Parker Manufacturing Co., Santa Monica, Calif.
Shobar Sales, Inc., Stockton, Calif.
Stanley Electric Tools, New Britain, Conn.
Thomas Machine Mfg. Co., Pittsburgh, Pa.
Wales-Strippit Corp., N. Tonawanda, N. Y.
Webb Corp., The, Webb City, Mo.
Whiting Corp., Harvey, Ill.
Whitney, W. A., Mfg. Co., Rockford, Ill.

METAL-CUTTING SHEARS, Electric, Portable

Barth Mfg. Co., The, Milldale, Conn.
Black & Decker Mfg. Co., The, Towson, Md.
Independent Pneumatic Tool Co., Chicago, Ill.
Jefferson Engineering & Mfg. Co., Detroit, Mich.
Skil Corp., Chicago, Ill.
Stanley Electric Tools, New Britain, Conn.
Van Dorn Electric Tool Co., The, Towson, Md.

METALLURGICAL APPARATUS

Buehler Ltd., Chicago, Ill.
Gordon Co., Claud S., Chicago, Ill.
Precision Scientific Co., Chicago, Ill.

METAL-MARKING CRAYONS

American Crayon Co., Sandusky, Ohio
Atlas Welding Accessories Co., Ferndale, Mich.
Blum, Julius, & Co., Inc., New York, N. Y.
Eutectic Welding Alloys Corp., Flushing, N. Y.
Markal Co., Chicago, Ill.
Whittaker, Clark & Daniels, Inc., New York, N. Y.

NIBBLING MACHINES

American Pullmax Co., Inc., Chicago, Ill.
Buckeye Tools Corp., Dayton, Ohio
Campbell, Andrew C., Division of American Chair & Cable Co., Inc., Bridgeport, Conn.
Wales-Strippit Corp., N. Tonawanda, N. Y.

NOTCHING UNIT, Pipe and Tubing

Blum, Julius, & Co., Inc., New York, N. Y.
Douglas Pipe Mach. Co., Monrovia, Calif.
H & M Pipe Beveling Machine Co., Tulsa, Okla.
Heath Engineering Co., Ft. Collins, Colo.
Vogel Tool & Die Corp., Melrose Park, Ill.

NUTS, Weld

(See: "Weld Nuts")

OVERHEAD TRAVELING CRANES

Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
Cleveland Crane & Engineering Co., The, Wickliffe, Ohio
Columbus-McKinnon Chain Corp., Tonawanda, N. Y.
Conco Engr. Works, Mendota, Ill.
Detroit Hoist & Mach. Co., Detroit, Mich.
Downs Crane & Hoist Co., Los Angeles, Calif.
Ford Chain Block Div. of Amer. Chain & Cable Co., Inc., York, Pa.
Grand Specialties Co., Chicago, Ill.
Industrial Equip. Co., Chicago, Ill.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Div., Muskegon, Mich.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Northern Engineering Works, Detroit, Mich.
Peck, Cecil C., Co., Cleveland, Ohio
Robbins & Myers, Inc., Springfield, Ohio
Round, David & Son, Cleveland, Ohio
Stryco Mfg. Co., San Francisco, Calif.
Whiting Corp., Harvey, Ill.
Wright Hoist Div., American Chain & Cable Co., Inc., York, Pa.

OXIDE REMOVING COMPOUNDS

(See: "Metal Cleaners")

PAINT-SPRAY NOZZLES

Allen, W. D., Mfg. Co., Chicago, Ill.
DeVilbiss Co., The, Toledo, Ohio
Elkhart Brass Mfg. Co., Elkhart, Ind.
Paasche Airbrush Co., Chicago, Ill.
Schrader's, A., Son, Division of Scovill Manufacturing Co., Inc., Brooklyn, N. Y.
Sherman, H. B., Mfg. Co., Battle Creek, Mich.

PIPE-BENDING MACHINES

Baldwin-Lima-Hamilton Corp., Philadelphia, Pa.
Blackhawk Mfg. Co., Milwaukee, Wis.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Greenlee Tool Co., The, Rockford, Ill.
Hossfeld Mfg. Co., Winona, Minn.
Kling Bros. Engineering Works, Chicago, Ill.
Niagara Machine & Tool Works, Buffalo, N. Y.
O'Neil-Irwin Mfg. Co., Lake City, Minn.
Pandjiris Weldment Co., St. Louis, Mo.
Parker Appliance Co., The, Cleveland, Ohio
Pedrick Tool & Machine Co., Philadelphia, Pa.
Silent Hoist & Crane Co., Inc., Brooklyn, N. Y.
Skinner, M. B., Co., South Bend, Ind.
Studebaker Machine Co., Maywood, Ill.
Tal Bender, Inc., Milwaukee, Wis.
Thomas Machine Mfg. Co., Pittsburgh, Pa.
Wallace Supplies Mfg. Co., Chicago, Ill.
Watson-Stillman Co., The, Roselle, N. J.

PIPE CUTTERS

American Pipe Tool Co., Chicago, Ill.
Armstrong Bros. Tool Co., Chicago, Ill.
Atkins, E. C., & Co., Indianapolis, Ind.
Beaver Pipe Tools, Inc., Warren, Ohio
Capewell Mfg. Co., The, Hartford, Conn.
Collmer Bros., South Bend, Ind.
Disston, Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
H & M Pipe Beveling Machine Co., Tulsa, Okla.
Heath Engrg. Co., Ft. Collins, Colo.
Herbrand Tools, Fremont, Ohio
Hollands Mfg. Co., Erie, Pa.
Imperial Brass Mfg. Co., The, Chicago, Ill.
Nye Tool & Machine Co., Chicago, Ill.
Oster Manufacturing Co., The, Cleveland, Ohio
Parker Appliance Co., Inc., The, Cleveland, Ohio
Quijada Tool Co., Inc., Los Angeles, Calif.
Ridge Tool Co., The, Elyria, Ohio
Sandvik Saw & Tool (Division of Sandvik Steel, Inc.), New York, N. Y.
Speedi-Burn Prod. Co., West Hempstead, N. Y.
Toledo Pipe Threading Machine Co., The, Toledo, Ohio
Trimont Mfg. Co., Div. of Aetna Industrial Corp., Roxbury, Mass.
Vogel Tool & Die Corp., Melrose Park, Ill.

PIPE LAYOUT TOOL

Contour Marker Corp., Compton, Calif.
Interstate Sales Co., New York, N. Y.

PIPE JAWS, for Vises

Capewell Mfg. Co., The, Hartford, Conn.
Chicago Tool & Engineering Co., Chicago, Ill.
Columbian Vise & Mfg. Co., The, Cleveland, Ohio
Desmond-Stephan Mfg. Co., Urbana, Ohio
Grand Specialties Co., Chicago, Ill.
Hollands Mfg. Co., Erie, Pa.
Progressive Welder Co., Detroit, Mich.
Ridge Tool Co., The, Elyria, Ohio
Wilton Tool Mfg. Co., Chicago, Ill.

PLIERS

Atlas Welding Accessories Co., Ferndale, Mich.
Basford, H. R., Co., San Francisco, Calif.
Billings & Spencer Co., The, Hartford, Conn.
Blackhawk Mfg. Co., Milwaukee, Wis.
Bonny Forge & Tool Works, Allentown, Pa.
Bridgeport Hardware Mfg. Co., The, Bridgeport, Conn.
Champion DeArment Tools Co., Meadville, Pa.
Crescent Tool Co., Jamestown, N. Y.
Duro-Metal Products Co., Chicago, Ill.
Herbrand Tools, Fremont, Ohio
Klein, Mathias, & Sons, Chicago, Ill.
Kraeuter & Co., Inc., Newark, N. J.
Lapeer Mfg. Co., Lapeer, Mich.
New Britain Machine Co., New Britain, Conn.
Owatonna Tool Co., Owatonna, Minn.
Park Metalware Co., Inc., Orchard Park, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Plomb Tool Co., Los Angeles, Calif.
Quality Tools Corp., New Wilmington, Pa.
Smith, Seymour & Son, Inc., Oakville, Conn.
Stevens Walden, Inc., Worcester, Mass.
Utica Drop Forge & Tool Corp., Utica, N. Y.
Vichek Tool Co., The, Cleveland, Ohio

PLIERS, Toggle-Action

Atlas Welding Accessories Co., Ferndale, Mich.
Detroit Stamping Co., Detroit, Mich.
Lapeer Mfg. Co., Lapeer, Mich.
Owatonna Tool Co., Owatonna, Minn.
Petersen Mfg. Co., Inc., DeWitt, Neb.
Plomb Tool Co., Los Angeles, Calif.
Seymour Smith & Son, Inc., Oakville, Conn.

PLOW POINTS

Osmundson Spade Mfg. Co., Perry, Iowa
Weise Plow Welding Co., Inc., Perry, Iowa

PLOW REPOINTS

Osmundson Spade Mfg. Co., Inc., Perry, Iowa
Victor Equipment Co., San Francisco, Calif.
Weise Plow Welding Co., Inc., Perry, Iowa

PLOWSHARE RECLAIMING UNITS

Morton Mfg. Co., Muskegon Heights, Mich.
Mott Products Co., Jackson, Mich.
Osmundson Spade Mfg. Co., Perry, Iowa
Victor Equipment Co., San Francisco, Calif.
Wiese Plow Welding Co., Perry, Iowa

PLUGS and RECEPTACLES

Albert & J. M. Anderson Mfg. Co., Boston, Mass.
Appleton Electric Co., Chicago, Ill.
Clinch Mfg. Corp., Chicago, Ill.
Cutler-Hammer, Inc., Milwaukee, Wis.
Industrial Products Co., Philadelphia, Pa.
Jones Div., Howard B., Chicago, Ill.
Joy Mfg. Co., Pittsburgh, Pa.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Pyle-National Co., Chicago, Ill.
Stevens, C. H., & Co., Cornwall Bridge, Conn.
Westinghouse Electric Corp., Pittsburgh, Pa.

PNEUMATIC HOISTS

Anker Holth Division of Wellman Engineering Co., Port Huron, Mich.
Chicago Pneumatic Tool Co., New York, N. Y.
Cleveland Crane & Engineering Co., Wickcliffe, Ohio
Curtis Pneumatic Machinery, Div. of Curtis Mfg. Co., St. Louis, Mo.
Detroit Hoist & Machine Co., Detroit, Mich.
Ingersoll-Rand Co., New York, N. Y.
Keller Tool Co., Grand Haven, Mich.
Market Forge Co., Everett, Mass.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Northern Engineering Works, Detroit, Mich.
Platz Co., Inc., Detroit, Mich.
Thor Power Tool Co., Aurora, Ill.

POLISHERS

Acme Mfg. Co., Detroit, Mich.
Aro Equipment Corp., Bryan, Ohio
Aronson Machine Co., Arcade, N. Y.
Black & Decker Mfg. Co., The, Towson, Md.
Buckeye Tools Corp., Dayton, Ohio
Buehler, Ltd., Chicago, Ill.
Chicago Pneumatic Tool Co., New York, N. Y.
Clizbe Bros. Mfg. Co., Plymouth, Ind.
Cummins-Chicago Corp., Chicago, Ill.
Cutter Machine Co. (Belt Driven), St. Louis, Mo.
Divine Brothers Co., Utica, N. Y.
Elliott Mfg. Co., Binghamton, N. Y.
Hammond Machinery Builders, Inc., Kalamazoo, Mich.
Hisey Wolf Machine Co., The, Cincinnati, Ohio
Mall Tool Co., Chicago, Ill.
Merit Products, Inc., Culver City, Calif.
Miller Falls Co., Greenfield, Mass.
NuSteel Co., Chicago, Ill.
Overly, Chas. F., Co., Cleveland, Ohio
Pacific Hardware & Steel Co., Inc., San Jose, Calif.
Portable Electric Tools, Inc., Chicago, Ill.
Porter-Cable Machine Co., Syracuse, N. Y.
Rotor Tool Co., Cleveland, Ohio
Ryman Engineering Co., Ellwood City, Pa.
Skil Corp., Chicago, Ill.
Stow Manufacturing Co., Binghamton, N. Y.
Syntron Co., Homer City, Pa.
Thor Power Tool Co., Aurora, Ill.
United States Electric Tool Co., The, Cincinnati, Ohio

PORTABLE AIR COMPRESSORS

Allis-Chalmers Manufacturing Co., Milwaukee, Wis.
Brunner Manufacturing Co., Utica, N. Y.
Champion Pneumatic Machinery Co., Chicago, Ill.
Chicago Pneumatic Tool Co., New York, N. Y.
DeVilbiss Co., The, Toledo, Ohio
Gardner-Denver Co., Quincy, Ill.
Independent Pneumatic Tool Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.
Joy Mfg. Co., Pittsburgh, Pa.
Kellogg Division of The American Brake Shoe Co., Rochester, N. Y.
Paasche Airbrush Co., Chicago, Ill.
Roots-Connersville Blower Corp., Connersville, Ind.
Saylor-Beall Manufacturing Co., Lansing, Mich.
Schramm, Inc., West Chester, Pa.
Smith, Gordon & Co., Inc., Bowling Green, Ky.
Worthington Corp., Harrison, N. J.

PORTABLE CRANES

Chisholm Moore Hoist Corp., Tonawanda, N. Y.
Conco Engineering Works, Mendota, Ill.
Downs Crane & Hoist Co., Los Angeles, Calif.
Ford Chain Block Div. of American Chain & Cable Co., Inc., York, Pa.
Harnischfeger Corp., Milwaukee, Wis.
Revolvator Co., North Bergen, N. J.
Round, David, & Son, Cleveland, Ohio
Shepard Niles Crane & Hoist Co., Montour Falls, N. Y.
Wright Hoist Div. of American Chain & Cable Co., Inc., York, Pa.
Yale & Towne Mfg. Co., The, Phila. Div., Philadelphia, Pa.

PORTABLE ELECTRIC SANDERS

Albertson & Co., Inc., Sioux City, Iowa.
Black & Decker Mfg. Co., The, Towson, Md.
Bradford Machine Tool Co., Cincinnati, Ohio
Buckeye Tools Corp., Dayton, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Cincinnati Electrical Tool Co., The, Cincinnati, Ohio
Clark, James, Jr., Electric Co., Louisville, Ky.
Delta Mfg., Division of The Rockwell Mfg. Co., Milwaukee, Wis.
Duro Metal Products Co., Chicago, Ill.
Mall Tool Co., Chicago, Ill.
Millers Falls Co., Greenfield, Mass.
Milwaukee Electric Tool Corp., Milwaukee, Wis.
Portable Electric Tools, Inc., Chicago, Ill.
Porter-Cable Machine Co., Syracuse, N. Y.
Rotor Tool Co., Cleveland, Ohio
Skil Corp., Chicago, Ill.
Stanley Electric Tool Division, The Stanley Works, New Britain, Conn.
Sterling Tool Products Co., Chicago, Ill.
Stow Mfg. Co., Inc., Binghamton, N. Y.
Strand, N. A., & Co., Chicago, Ill.
Thor Power Tool Co., Aurora, Ill.
United States Electrical Tool Co., The, Cincinnati, Ohio
Van Dorn Electric Tool Co., The, Towson, Md.
Walker-Turner Co., Inc., Plainfield, N. J.
Wodack Electric Tool Corp., Chicago, Ill.

PORTABLE PNEUMATIC SANDERS

Aro Equipment Corp., The, Bryan, Ohio
Buckeye Tools Corp., Dayton, Ohio
Chicago Pneumatic Tool Co., New York, N. Y.
Cleco Div., Reed Roller Bit Co., Houston, Texas
Detroit Surfacing Machine Co., Detroit, Mich.
Hoffman, R. W., Co., Inc., Chicago, Ill.
Keller Tool Co., Grand Haven, Mich.
Mall Tool Co., Chicago, Ill.
Master Pneumatic Tool Co., Inc., Orwell, Ohio
Paasche Airbrush Co., Chicago, Ill.
Rotor Tool Co., Cleveland, Ohio
Sterling Tool Products Co., Chicago, Ill.
Thor Power Tool Co., Aurora, Ill.

PORTABLE WELDING SHOPS

American Oxygen Service Corp., Harrison, N. J.
Couse Mfg. Co., Inc., Newark, N. J.
Hebard & Co., W. F., Chicago, Ill.
Hobart Bros. Co., Troy, Ohio
National Cylinder Gas Co., Chicago, Ill.
Progressive Welder Sales Co., Detroit, Mich.
Willys-Overland Motors, Inc., Toledo, Ohio

POSITIONERS

Acme Mfg. Co., Detroit, Mich.
Acro Welder Mfg. Co., Milwaukee, Wis.
Aronson Machine Co., Arcade, N. Y.
Bentley Welders, Inc., Syracuse, N. Y.
Bryant Products Distributing Co., Jackson, Mich.
Bunell Machine & Tool Co., Cleveland, Ohio
Cayuga Machine & Fabr. Co., Inc., Depew, N. Y.
Cullen-Friestedt Co., Chicago, Ill.
Drennan, Inc., Lee J., Arcade, N. Y.
duMont Corp., The, Greenfield, Mass.
Eisler Engineering Co., Inc., Newark, N. J.
Garfield Engineering Corp., Kansas City, Mo.
General Welding Co., The, Cleveland, Ohio
Gouran, Mark F., Philadelphia, Pa.
Grand Specialties Co., Chicago, Ill.
Hamilton Tool Co., Hamilton, Ohio
Herrick, C. B., Mfg. Corp., Cleveland, Ohio
Harnischfeger Corp., Milwaukee, Wis.
Johnson Machine Works, Eau Claire, Wis.
Lewis Welding & Engrg. Corp., Bedford, Ohio
Lyon-Raymond Corp., Greene, N. Y.
McFerron-Myers Prod. Co., Cleveland, Ohio
Morton Mfg. Co., Muskegon Heights, Mich.
Pandjiris Weldment Co., St. Louis, Mo.
Peck, Cecil C., Co., Cleveland, Ohio
Roylyn, Inc., Glendale, Calif.
Schrader, F. W., Co., Culver City, Calif.
Scientific Research Co., Portland, Ore.
Unique Equipment, Inc., Brooklyn, N. Y.
Victory Engineering & Machine Works, Inc., St. Louis, Mo.
Webb Corp., Webb City, Mo.
Welding Machines Mfg. Co., Detroit, Mich.
Will-Burt Co., Orrville, Ohio
World Electric Co., Cleveland, Ohio
Worthington Corp., Dunellen, N. J.

POTS and KETTLES, Metal Melting

(See: "Ladles, Metal Melting, Pouring and Skimming")

POWER HACK SAWS

American Saw & Mfg. Co., Springfield, Mass.
Armstrong-Blum Mfg. Co., Chicago, Ill.
Atkins, E. C., and Co., Indianapolis, Ind.
Atlas Welding Accessories Co., Ferndale, Mich.
Barnes, W. O., Co., Inc., Detroit, Mich.
Capewell Mfg. Co., The, Hartford, Conn.
Clemson Bros., Middletown, N. Y.
Diamond Saw Works, Inc., Buffalo, N. Y.
Disston, Henry, & Sons, Inc., Tacony, Philadelphia, Pa.
DoAll Co., The, Des Plaines, Ill.
Forsberg Mfg. Co., The, Bridgeport, Conn.
Griffin, G. W., Co., Franklin, N. H.
Millers Falls Co., Greenfield, Mass.
Simonds Saw and Steel Co., Fitchburg, Mass.
Skil Corp., Chicago, Ill.
Spartan Saw Works, Inc., Springfield, Mass.
Starrett, L. S., Co., The, Athol, Mass.
Thompson, Henry G., & Son Co., The, New Haven, Conn.
Thor Power Tool Co., Aurora, Ill.
Victor Saw Works, Inc., Middletown, N. Y.

PREHEATING EQUIPMENT, Portable, Electric

Arcos Corp., Philadelphia, Pa.
Eclipse Fuel Engineering Co., Rockford, Ill.
Electric Arc, Inc., Newark, N. J.
Falcon Equipment Co., New Brighton, Pa.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Mahr Mfg. Co., Div. of Diamond Iron Works, Inc., Minneapolis, Minn.

PULLERS

Blackhawk Mfg. Co., Milwaukee, Wis.
Columbus-McKinnon Chain Corp., Tonawanda, N. Y.
Herbrand Tools, Fremont, Ohio
Hewitt-Robins, Inc., Stamford, Conn.
Imperial Brass Mfg. Co., The, Chicago, Ill.
National Welding Equip. Co., San Francisco, Calif.
Owatonna Tool Co., Owatonna, Minn.
Plomb Tool Co., Los Angeles, Calif.
Templeton, Kenly & Co., Broadview, Ill.
Utica Drop Forge & Tool Corp., Utica, N. Y.
Williams, J. H., & Co., Buffalo, N. Y.

PUNCH and SHEARS, Combined

Blum, Julius, & Co., Inc., New York, N. Y.
Kling Bros. Engineering Works, Chicago, Ill.
National Machine Tool Co., Racine, Wis.
Niagara Machine & Tool Works, Buffalo, N. Y.
Peck, Stow & Wilcox Co., Southington, Conn.
Webb Corp., The, Webb City, Mo.

PYROMETERS

Bristol Co., The, Waterbury, Conn.
Dillon, W. C., & Co., Inc., Van Nuys, Calif.
General Electric Co., Schenectady, N. Y.
Gordon, Claud S., Co., Chicago, Ill.
Industrial Overlay Metals, Eaton, Ohio
Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
Richards, Arkley S., Co., Inc., Newton Highlands, Mass.
Weston Electrical Corp., Newark, N. J.

RADIOGRAPHIC FILMS

Ansco, Binghamton, N. Y.
du Pont de Nemours, E. I. & Co., Wilmington, Del.
Eastman Kodak Co., X-ray Div., Rochester, N. Y.

RADIUM INSPECTION

(See also: "Inspection Equipment, Radium")

Bar-Ray Products, Inc., Brooklyn, N. Y.
Canadian Radium & Uranium Corp., New York, N. Y.
Kelley-Koett Mfg. Co., The, Covington, Ky.
Radium Chemical Co., Inc., New York, N. Y.
St. John X-Ray Laboratories, Califon, N. J.

RAILING MATERIALS

Blum, Julius & Co., Inc., New York, N. Y.
Braun, J. G., Co., Chicago, Ill.
Stewart Iron Works Co., Inc., Cincinnati, Ohio

RATCHET LEVER HOISTS

Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
Coffing Hoist Co., Danville, Ill.
Columbus-McKinnon Chain Corp., Tonawanda, N. Y.
Harrington Co., The, Philadelphia, Pa.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Division, Muskegon, Mich.
Morris, Wheeler & Co., Inc., Philadelphia, Pa.
Sasgen Derrick Co., Chicago, Ill.

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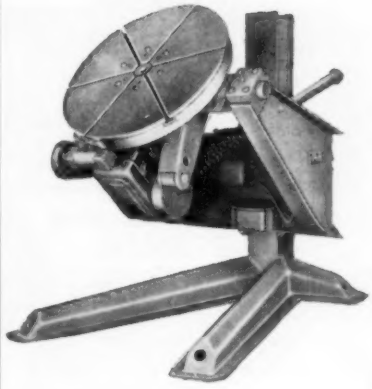

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HARNISCHFEGER CORPORATION
4513 West National Avenue, Milwaukee 46, Wis.

Stryco Mfg. Co., San Francisco, Calif.
Yale & Towne Mfg. Co., The (Philadelphia Division), Philadelphia, Pa.

REFRACTORIES

Armstrong Cork Co., Building Materials Div., Lancaster, Pa.
Bay State Abrasive Products Co., Westboro, Mass.
Carborundum Co., The, Niagara Falls, N. Y.
Carey, Philip, Mfg. Co., The, Cincinnati, Ohio
Cleveland Quarries Co., Cleveland, Ohio
Dixon, Joseph, Crucible Co., Jersey City, N. J.
Ehret Magnesia Mfg. Co., Valley Forge, Pa.
Hercules Chemical Co., Inc., New York, N. Y.
Johns-Manville, New York, N. Y.
Keasbey & Mattison Co., Ambler, Pa.
Laclede-Christy Co., St. Louis, Mo.
Massillon Refractories Co., The, Massillon, Ohio
Mexico Refractories Co., Mexico, Mo.
National Carbon Div., Union Carbide & Carbon Corp., New York, N. Y.
National Lead Co., New York, N. Y.
North American Refractories Co., Cleveland, Ohio
Quigley Co., Inc., New York, N. Y.
Titanium Alloy Mfg. Co., Div. National Lead Co., New York, N. Y.

RUBBER ABRASIVES

Bay State Abrasive Products Co., Westboro, Mass.
Carborundum Co., The, Niagara Falls, N. Y.
Chicago Wheel & Mfg. Co., Chicago, Ill.
Cratex Mfg. Co., San Francisco, Calif.
Desanno, A. P. & Son, Inc., Phoenixville, Pa.
Ideal Industries, Inc., Sycamore, Ill.
Raybestos-Manhattan, Inc., Passaic, N. J.
Sandusky Abrasive Wheel Co., Kalamazoo, Mich.
Strand, N. A., Div., The Balmar Corp., Chicago, Ill.
Weldon Roberts Rubber Co., Brightboy Industrial Div., Newark, N. J.

RUBBING and SHARPENING STONES

Bay State Abrasive Products Co., Westboro, Mass.
Carborundum Co., The, Niagara Falls, N. Y.
Chicago Wheel & Mfg. Co., Chicago, Ill.
Cortland Grinding Wheels Corp., Chester, Mass.
Macklin Co., Jackson, Mich.
Mid-West Abrasive Co., Owosso, Mich.
Sandusky Abrasive Wheel Co., Kalamazoo, Mich.
Universal Wheel & Abrasive Corp., Chicago, Ill.

RUST PREVENTIVES and REMOVERS

Allen, L. B., Co., Inc., Chicago, Ill.
Allied Products Co., Chicago, Ill.
All-State Welding Alloys Co., Inc., White Plains, N. Y.
Cabot, Samuel, Inc., Boston, Mass.
Carbide and Carbon Chemicals Div., Union Carbide and Carbon Corp., New York, N. Y.
Cook's, Adam, Sons, Inc., Linden, N. J.
Delta Power Tool Div., Rockwell Mfg. Co., Milwaukee, Wis.
Dennis Chemical Co., St. Louis, Mo.
Diversey Corp., The, Chicago, Ill.
Eagle-Picher Sales Co., The, Cincinnati, Ohio
Eutectic Welding Alloys Corp., Flushing, N. Y.
Hercules Chemical Co., Inc., New York, N. Y.
Hollingshead, R. M., Corp., Camden, N. J.
Houghton, E. F., & Co., Philadelphia, Pa.
Kano Laboratories, Chicago, Ill.
Kelite Products, Inc., Los Angeles, Calif.
Klem Chemicals, Inc., Dearborn, Mich.
Krembs & Co., Chicago, Ill.
Metalloy Prod. Co., Los Angeles, Calif.
Nox-Rust Chemical Corp., Chicago, Ill.
Oakite Products, Inc., New York, N. Y.
Philadelphia Quartz Co., Philadelphia, Pa.
Presstite Engineering Co., St. Louis, Mo.
Quaker Chemical Products Corp., Conshohocken, Pa.
Quigley Co., Inc., New York, N. Y.
Rust-Oleum Corp., Evanston, Ill.
Rusticide Products Co., Cleveland, Ohio
Smith, G. W., & Sons, Inc., Dayton, Ohio
Sonneborn Sons, Inc., L., New York, N. Y.
Standard Research, Inc., New Haven, Conn.
Stuart, D. A., Oil Co., Ltd., Chicago, Ill.
Sun Oil Co., Philadelphia, Pa.
Superior Flake Graphite Co., Chicago, Ill.
Thompson & Co., Oakmont, Pa.
Turco Products, Inc., Los Angeles, Calif.
Wayne Chemical Products Co., Detroit, Mich.
Wilbur & Williams, Co., The, Boston, Mass.
Wolfe-Kote Co., Inc., Sheboygan, Wis.
Wyandotte Chemicals Corp., Wyandotte, Mich.

SANDBLAST ABRASIVES

Bay State Abrasive Products Co., Westboro, Mass.
Carborundum Co., The, Niagara Falls, N. Y.
Clayton-Sherman Abrasive Co., Detroit, Mich.
Macklin Co., Jackson, Mich.
Metallizing Co. of America, Inc., Chicago, Ill.
Metallizing Engineering Co., Long Island City, N. Y.
Paasche Airbrush Co., Chicago, Ill.
Pangborn Corp., Hagerstown, Md.
Parsons Engineering Corp., Cleveland, Ohio
Turco Products, Inc., Los Angeles, Calif.
Vacu-Blast Co., Inc., Belmont, Calif.
Wheelabrator Corp., Mishawaka, Ind.

SANDBLAST EQUIPMENT

(See: "Sandblast Machines")

SANDBLAST HOSE

Boston Woven Hose & Rubber Co., Boston, Mass.
Chicago Metal Hose Corp., Maywood, Ill.
Diamond Mechanical Goods Division of the B. F. Goodrich Co., Akron, Ohio
Gates Rubber Co., The, Denver, Colo.
Goodall Rubber Co., Philadelphia, Pa.
Goodrich, B. F., Co., The, Akron, Ohio
Goodyear Tire & Ruber Co., Inc., Akron, Ohio
Hewitt Rubber Div., Hewitt-Robins, Inc., Buffalo, N. Y.
Home Rubber Co., Trenton, N. J.
MacLeod Co., The, Cincinnati, Ohio
New York Belting & Packing Co., Passaic, N. J.
Paasche Airbrush Corp., Philadelphia, Pa.
Pangborn Corp., Hagerstown, Md.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
Thermoid Rubber Div., Thermoid Co., Trenton, N. J.

SANDBLAST MACHINES

Clementina Ltd., San Francisco, Calif.
MacLeod Co., The, Cincinnati, Ohio
Pangborn Corp., Hagerstown, Md.
Ruemelin Mfg. Co., Milwaukee, Wis.
Vacu-Blast Co., Inc., Belmont, Cal.
Wheelabrator Corp., Mishawaka, Ind.

SANDBLAST NOZZLES

Carboloy Dept. General Electric Co., Detroit, Mich.
Clementina Ltd., San Francisco, Calif.
Diamonite Prod. Div., U. S. Ceramic Tile Co., Canton, Ohio
MacLeod Co., The, Cincinnati, Ohio
Norton Co., The, Cincinnati, Ohio
Paasche Airbrush Co., Chicago, Ill.
Pangborn Corp., Hagerstown, Md.
Purnell Alloy Co., Angleton, Texas
Quaker Rubber Corp., Philadelphia, Pa.
Stoody Co., Whittier, Calif.
Vacu-Blast Co., Inc., Belmont, Calif.
Wheelabrator Corp., Mishawaka, Ind.

SANDPAPER

Abrasive Products, Inc., South Braintree, Mass.
Armour & Co., Alliance, Ohio
Atlas Abrasive Corp., Brooklyn, N. Y.
Behr-Manning Corp., Troy, N. Y.
Carborundum Co., The, Niagara Falls, N. Y.
Hoffman, R. W., Co., Inc., Chicago, Ill.
Michigan Abrasive Co., Detroit, Mich.
Mid-West Abrasive Co., Owosso, Mich.
Millers Falls Co., Greenfield, Mass.
Minnesota Mining & Mfg. Co., St. Paul, Minn.
Skil Corp., Chicago, Ill.

SHEARS, Metal Cutting, Foot Power, Belts or Motor Drives

(See: "Metal-Cutting Machines")

SHEARS, Metal Cutting, Pneumatic, Portable

(See also: "Metal-Cutting Machines")

Aircraft-Marine Products, Inc., Harrisburg, Pa.
Buckeye Tools Corp., Dayton, Ohio
Cleveland Crane & Engineering Co., Wickliffe, Ohio
Niagara Machine & Tool Works, Buffalo, N. Y.
O'Neil-Irwin Mfg. Co., Lake City, Minn.
Porter, H. K., Inc., Somerville, Mass.

SHEARS, Metal Cutting, Rotary

(See: "Metal-Cutting Machines")

SLEDGES, Mauls or Striking Hammers

(See: "Blacksmiths Hammers")

SPRAY GUNS

Alemite Div., Stewart-Warner Corp., Chicago, Ill.
American Agile Corp., Bedford, Ohio
Binks Manufacturing Co., Chicago, Ill.
Black Mfg. Co., The, Baltimore, Md.
DeVilbiss Co., The, Toledo, Ohio
Hercules Chemical Co., Inc., New York, N. Y.
Kellogg Div., of The American Brake Shoe Co., Rochester, N. Y.
Milburn, Alexander, Inc., Baltimore, Md.
Paasche Airbrush Co., Chicago, Ill.
Powder Weld Process Co., The, Brooklyn, N. Y.
Thompson & Co., Oakmont, Pa.

SOAPSTONE HOLDERS

Aladdin Rod & Flux Mfg. Co., Grand Rapids, Mich.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Forney Mfg. Co., Fort Collins, Colo.
K-G Equip. Co., Inc., Allentown, Pa.
National Cylinder Gas Co., Chicago, Ill.
Ragle Industries, Kansas City, Mo.
Randall Mfg. Co., North Kansas City, Mo.

SOLDER PADDLES

Division Lead Co., Summit, Ill.
Porter, H. K., Inc., Somerville, Mass.
Remont Mfg. Co., Lombard, Ill.

SOLDERING IRONS

Bernz, Otto Co., Inc., Rochester, N. Y.
Century Aircraft, Los Angeles, Calif.
Chase Brass & Copper Co., Inc., Waterbury, Conn.
Dockson Corp., Detroit, Mich.
Eisler Engineering Co., Inc., Newark, N. J.
Electric Soldering Iron Co., Inc., Deep River, Conn.
Forney Mfg. Co., Fort Collins, Colo.
Flux-All Chemical Products, New York, N. Y.
Goss Gas, Inc., Glenshaw, Pa.
Hexacon Electric Co., Roselle Park, N. J.
Insto-Gas Appliance Co., Cedar Rapids, Iowa
Kemode Co., The, Inc., New York, N. Y.
Linde Air Products, New York, N. Y.
Liquid Carbonic Corp., The, Chicago, Ill.
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Paul C. Roche Co., Inc., New York, N. Y.
Selas Corp. of America, Philadelphia, Pa.
Smith Welding Equipment Corp., Minneapolis, Minn.
Turner Brass Works, The, Sycamore, Ill.
Vulcan Electrical Co., Lynn, Mass.

SOLDERING IRON HANDLES

Bernz, Otto Co., Inc., Rochester, N. Y.
Gallup-Ruffing Handle Co., The, Norwalk, Ohio
Imperial Brass Mfg. Co., The, Chicago, Ill.
Link, O. P., Handle Co., Salem, Ind.
Lutz File & Tool Co., Cincinnati, Ohio
Peck, Stow & Wilcox Co., Southington, Conn.
Sight Feed Generator Co., The, W. Alexandria, Ohio

SOLDERING IRONS, Electric

Electric Soldering Iron Co., Inc., Deep River, Conn.
Flux-All Chemical Products, New York, N. Y.
General Electric Co., Schenectady, N. Y.
Hexacon Electric Co., Roselle Park, N. J.
Ideal Industries, Inc., Sycamore, Ill.
Kwikheat Mfg. Co., Glendale, Calif.
Mallory, P. R. & Co., Inc., Indianapolis, Ind.
Multi-Products Tool Co., Newark, N. J.
Sta-Warm Electric Co., Ravenna, Ohio
Vulcan Electric Co., Danvers, Mass.
Wassco Electric Products Corp., Peoria, Ill.

STABILIZER, Welding Electrode

(See: "Electrode Storage Ovens")

STAMPING DIES

Acromark Co., The, Elizabeth, N. J.
Dahlstrom Mfg. Co., St. Paul, Minn.
Die Typing Corp., Detroit, Mich.
Diener, Geo. W., Mfg. Co., Chicago, Ill.
Niagara Machine & Tool Works, Buffalo, N. Y.
O'Neill-Irwin Mfg. Co., Lake City, Minn.
Paine Co., The, Chicago, Ill.
Pyramid Steel Co., Cleveland, Ohio
Schwerdtle Stamp Co., The, Bridgeport, Conn.
Service Machine Co., Elizabeth, N. J.
Verson Allsteel Press Co., Chicago, Ill.
Vogel Tool & Die Corp., Melrose Park, Ill.
Warren Alloys, Pontiac, Mich.

STEAM HOSE

Atlantic Metal Hose Co., Inc., New York, N. Y.
Boston Woven Hose & Rubber Co., Boston, Mass.
Diamond Mechanical Goods Division of The B. F. Goodrich Co., Akron, Ohio
Electric Hose & Rubber Co., Wilmington, Del.
Fauver, J. N., Co., Inc., Detroit, Mich.
Gates Rubber Co., The, Denver, Colo.
Goodall Rubber Co., Philadelphia, Pa.
Goodrich, B. F., Co., The, Akron, Ohio
Goodyear Tire & Rubber Co., Inc., Akron, Ohio
Hewitt Rubber Div., Hewitt-Robins, Inc., Buffalo, N. Y.
Home Rubber Co., Trenton, N. J.
Ingersoll-Rand Co., New York, N. Y.
Mulconroy Co., Philadelphia, Pa.
New York Belting & Packing Co., Passaic, N. J.
Quaker Rubber Corp., Philadelphia, Pa.
Raybestos-Manhattan, Inc., Passaic, N. J.
Republic Rubber Division, Lee Rubber and Tire Corp., Youngstown, Ohio
Thermoid Rubber, Division of Thermoid Co., Trenton, N. J.

STOCKS and DIES, Bolt

Armstrong Bros. Tool Co., Chicago, Ill.
Bay State Tap & Die Co., Mansfield, Mass.
Beaver Pipe Tools, Inc., Warren, Ohio
Butterfield Division, Union Twist Drill Co., Derby Line, Vt.
Capewell Mfg. Co., The, Hartford, Conn.
Greenfield Tap & Die Corp., Greenfield, Mass.
Hollands Mfg. Co., Erie, Pa.
Morse Twist Drill & Machine Co., New Bedford, Mass.
Nye Tool & Machine Co., Chicago, Ill.
Oster Manufacturing Co., The, Cleveland, Ohio
Pratt & Whitney Div., Niles-Bement-Pond Co., W. Hartford, Conn.
Reed Manufacturing Co., Erie, Pa.
Ridge Tool Co., The, Elyria, Ohio
Standard Tool Co., Cleveland, Ohio
Threadwell Tap & Die Co., Greenfield, Mass.
Toledo Pipe Threading Machine Co., The, Toledo, Ohio

SWITCHES, Electric

Albert & J. M. Anderson Mfg. Co., Boston, Mass.
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Arrow-Hart & Hegeman Co., Hartford, Conn.
Automatic Temperature Control Co., Philadelphia, Pa.
Clark, C. P. & Co., Chicago, Ill.
Clark Controller Co., The, Cleveland, Ohio
Cutler-Hammer, Inc., Milwaukee, Wis.
Friez Instrument Division, Bendix Aviation Corp., Baltimore, Md.
General Electric Co., Schenectady, N. Y.
Master Electric Co., The, Dayton, Ohio
McGill Manufacturing Co., Valparaiso, Ind.
Ohmite Mfg. Co., Chicago, Ill.
Pyle-National Co., Chicago, Ill.
Rees, Mackworth G., Inc., Detroit, Mich.
Shallcross Mfg. Co., Collingdale, Pa.
Square D. Co., Milwaukee, Wis.
Trumbull Electric Mfg. Co., Plainville, Conn.
Weltronic Co., Detroit, Mich.
Westinghouse Electric Corp., Pittsburgh, Pa.

SWITCHES, Safety

Arrow-Hart & Hegeman Electric Co., Hartford, Conn.
Crouse-Hinds Co., Syracuse, N. Y.
Cutler-Hammer, Inc., Milwaukee, Wis.
Electric Controller & Mfg. Co., Cleveland, Ohio
Federal Electric Products Co., Newark, N. J.
General Electric Co., Schenectady, N. Y.
Hays Mfg. Co., Erie, Pa.
Pyle-National Co., Chicago, Ill.
Rees, Mackworth G., Inc., Detroit, Mich.
Square D. Co., Milwaukee, Wis.
Trumbull Electric Mfg. Co., Plainville, Conn.
Westinghouse Electric Corp., Pittsburgh, Pa.

SWITCHES, Stepping

Albert & J. M. Anderson Mfg. Co., Boston, Mass.
Clare, C. P., & Co., Chicago, Ill.
Federal Telephone & Radio Corp., Clifton, N. J.
General Electric Co., Schenectady, N. Y.
Industrial Timer Corp., Newark, N. J.
Minneapolis-Honeywell Reg. Co., S. Minneapolis, Minn.
Shallcross Mfg. Co., Collingdale, Pa.

TANK FITTINGS

Bastian-Blessing Co., The, Chicago, Ill.
Grinnell Co., Inc., Providence, R. I.
Ladish Co., Cudahy, Wis.
Lenape Hydraulic Press & Forging Co., West Chester, Pa.
Lukens Steel Co., Coatesville, Pa.
Midwest Piping & Supply Co., Inc., St. Louis, Mo.
Taylor Forge & Pipe Works, Chicago, Ill.
Welding Fittings Corp., New Castle, Pa.

TANK HEADS (Spun or Pressed)

Commercial Shearing & Stamping Co., The, Youngstown, Ohio
Lukens Steel Co., Coatesville, Pa.
Pressed Steel Tank Co., Milwaukee, Wis.
Republic Steel Corp., Cleveland, Ohio

TENSILE-TESTING EQUIPMENT

Baldwin-Lima-Hamilton Corp., Philadelphia, Pa.
Buehler Ltd., Chicago, Ill.
Detroit Testing Machine Co., Detroit, Mich.
Dillon, W. C., & Co., Inc., Van Nuys, Calif.
Gordon, Claud S. Co., Chicago, Ill.
Independent Engineering Co., O'Fallon, Ill.
Paulsen-Webber Cordage Corp., New York, N. Y.
Precision Scientific Co., Chicago, Ill.
Riehle Testing Machine Div., American Machine and Metals Inc., East Moline, Ill.
Steel City Testing Machines, Inc., Detroit, Mich.
Streeter-Amet Co., Chicago, Ill.

TEMPERATURE-INDICATING CRAYONS, PAINTS and PELLETS

Atlas Welding Accessories, Inc., Ferndale, Mich.
Gordon Co., Claud S., Chicago, Ill.
Tempil Corp., New York, N. Y.

TEMPERATURE MEASURING

(See: "Pyrometers," also, "Temperature Indicating Crayons")

TEST PLATES

(See "Welding Test Plates")

THERMIT EQUIPMENT and SUPPLIES

Metal & Thermit Corp., Rahway, N. J.

TOGGLE CLAMPS

Apex Welding & Fabricating Corp., 10540 Reserve Court, Cleveland 6, Ohio
Danly Mach. Specialties Co., Inc., Chicago, Ill.
Detroit Stamping Co., Detroit, Mich.
Erico Products, Inc., Cleveland, Ohio
General Welding Corp., Cleveland, Ohio
Lapeer Mfg. Co., Lapeer, Mich.
Mechanics Engineering Co., Jackson, Mich.
National Cylinder Gas Co., Chicago, Ill.
Petersen Mfg. Co., Inc., De Witt Neb.
Smith, Seymour, & Son, Inc., Oakville, Conn.
West Point Mfg. Co., Detroit, Mich.
Wolvernie Tool Co., Detroit, Mich.

TRAILER EQUIPMENT, Axles, Couplers, etc.

Hammer Blow Tool Co., Wausau, Wis.

TREPANNING TOOLS

Carboloy Dept. General Electric Co., Detroit, Mich.
Fibre Metal Products Co., Chester, Pa.
Flint Prod. Co., Brooklyn, N. Y.

TURNTABLES

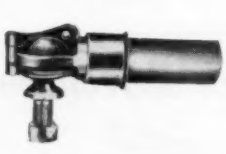
Aronson Machine Co., Arcade, N. Y.
Cayuga Machine & Fabr. Co., Inc., Depew, N. Y.
Eisler Engineering Co., Inc., Newark, N. J.
Herrick, C. B., Mfg. Co., Cleveland, Ohio
Lewis Welding & Engrg. Corp., Bedford, Ohio
Peck, Cecil C., Co., Cleveland, Ohio
Unique Equipment, Inc., New York, N. Y.

VALVES, Air Operated

Ross Operating Valve Co., Detroit, Mich.
Taylor-Winfield Corp., Warren, Ohio

Build Trailers
from parts your customers know

BULL DOG EQUIPMENT



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WAUSAU, WISCONSIN

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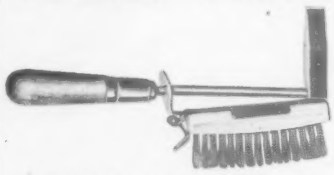

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NEW DESIGN MAKES THIS WELD CLEANING TOOL BETTER 6 WAYS

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VISE JAWS

Armstrong Bros. Tool Co., Chicago, Ill.
Columbian Vise & Mfg. Co., The, Cleveland, Ohio
Desmond-Stephan Mfg. Co., Urbana, Ohio
Grand Specialties Co., Chicago, Ill.
Lord, Robert S., Co., Eau Claire, Wis.
Parker, Charles Co., The, Meriden, Conn.
Richards-Wilcox Mfg. Co., Aurora, Ill.
Ridge Tool Co., The, Elyria, Ohio
Sherman, H. B., Mfg. Co., Battle Creek, Mich.
Williams, J. H., & Co., Buffalo, N. Y.
Wilton Tool Mfg. Co., Chicago, Ill.

VISES, Machinists'

American Scale Co., Kansas City, Mo.
Armstrong Bros. Tool Co., Chicago, Ill.
Athol Machine & Foundry Co., Athol, Mass.
Belmont Abrasives, Boston, Mass.
Brown & Sharpe Mfg. Co., Providence, R. I.
Cardinal Machine Co., Glendale, Calif.
Chicago Tool & Engineering Co., Chicago, Ill.
Columbian Vise & Mfg. Co., The, Cleveland, Ohio
Desmond-Stephan Mfg. Co., Urbana, Ohio
Hollands Mfg. Co., Erie, Pa.
Lapeer Mfg. Co., Lapeer, Mich.
Morgan Vise Co., Chicago, Ill.
Munton Mfg. Co., Franklin Park, Ill.
National Machine Tool Co., Racine, Wis.
North Bros. Mfg. Co., Division of The Stanley Works, Philadelphia, Pa.
Parker, Charles Co., The, Meriden, Conn.
Production Devices, Inc., Whitehall, N. Y.
Skinner Chuck Co., The, New Britain, Conn.
Studebaker Machine Co., Maywood, Ill.
Universal Engineering Co., San Diego, Calif.
Wilton Tool Mfg. Co., Chicago, Ill.

VISES, Pipe

American Pipe Tool Co., Chicago, Ill.
American Scale Co., Kansas City, Mo.
Armstrong Bros. Tool Co., Chicago, Ill.
Athol Machine & Foundry Co., Athol, Mass.
Beaver Pipe Tools, Inc., Warren, Ohio
Billings & Spencer Co., The, Hartford, Conn.
Capewell Mfg. Co., The, Hartford, Conn.
Columbian Vise & Mfg. Co., The, Cleveland, Ohio
Crane Co., Chicago, Ill.
Desmond-Stephan Mfg. Co., Urbana, Ohio
Grand Specialties Co., Chicago, Ill.
Hollands Mfg. Co., Erie, Pa.
Imperial Brass Mfg. Co., The, Chicago, Ill.
Morgan Vise Co., Chicago, Ill.
Nye Tool & Machine Co., Chicago, Ill.
Peerless Machine Co., Racine, Wis.
Reed Mfg. Co., Erie, Pa.
Ridge Tool Co., The, Elyria, Ohio
Toledo Pipe Threading Machine Co., The, Toledo, Ohio
Trimont Mfg. Co., Div. of Aetna Industrial Corp., Roxbury, Boston, Mass.
Wilton Tool Mfg. Co., Chicago, Ill.

WEDGE BARS

Allied Tractor & Steel Products Corp., Cleveland, Ohio
American Manganese Steel Co., Chicago Heights, Ill.
American Oxygen Service Corp., Harrison, N. J.
Ford Steel Co., St. Louis, Mo.
Industrial Overlay Metals, Eaton, Ohio
Leetonia Tool Co., The, Leetonia, Ohio
Pyramid Steel Co., Cleveland, Ohio
Stulz-Sickles Co., Newark, N. J.

WELD BACK-UP RINGS

Arcos Corp., Philadelphia, Pa.
Cayuga Machine & Engrg. Co., Inc., Depew, N. Y.
Commerce Pattern Foundry & Machine Co., Detroit, Mich.
General Ceramics Corp., Keasbey, N. J.
Grinnell Co., Inc., Providence, R. I.
Mansol Ceramics, Belleville, N. J.
Midwest Piping & Supply Co., Inc., St. Louis, Mo.
Oxo Welding Equip. Co., Chicago, Ill.
Riverside Machinery Co., Chicago, Ill.
Robvon Backing Ring & Fabricating Co., Portland, Ore.
Wedge Protectors, Inc., Cleveland, Ohio

WELD-CLEANING BRUSHES

(See also: "Weld Cleaning Tools")

Anderson Corp., Worcester, Mass.
Arcos Corp., Philadelphia, Pa.
Atlas Welding Accessories, Inc., Ferndale, Mich.
Bernard Welding Equipment Co., Chicago, Ill.

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Genter, C. D., Co., Chattanooga, Tenn.
Hewitt Rubber Div., Hewitt-Robins, Inc., Buffalo, N. Y.
Industrial Products Co., Philadelphia, Pa.
Manufacturers Brush Co., The, Cleveland, Ohio
Milwaukee Brush Mfg. Co., The, Milwaukee, Wis.
National Cylinder Gas Co., Chicago, Ill.
Osborn Mfg. Co., Cleveland, Ohio
Pittsburgh Plate Glass Co., Brush Div., Baltimore, Md.
Strand, N. A., Div., The Balmar Corp., Chicago, Ill.

WELD-CLEANING TOOLS

(See also: "Weld-Cleaning Brushes," "Chipping and Scaling Hammers," "Wire Brushes," etc.)

Atlas Welding Accessorie, Inc., Ferndale, Mich.
Bernard Welding Equipment Co., Chicago, Ill.
Buckeye Tool Corp., Dayton, Ohio
Carter-Lockard Co., Los Angeles, Calif.
Chicago Pneumatic Tool Co., New York, N. Y.
Cincinnati Tool Co., Norwood, Cincinnati, Ohio
Cleco Div. of Reed Roller Bit Co., Houston, Texas
Coast Pneumatic Tool Co., Los Angeles, Calif.
Dallett Co., The, Philadelphia, Pa.
Manufacturing Brush Co., The, Cleveland, Ohio
Marquette Mfg. Co., Inc., Minneapolis, Minn.
Millers Falls Co., Greenfield, Mass.
Milwaukee Brush Mfg. Co., Milwaukee, Wis.
Nu-Matic Grinders, Inc., Cleveland, Ohio
Osborn Manufacturing Co., The, Cleveland, Ohio
Quality Tools Corp., New Wilmington, Pa.
Ragle, J. M., Industries, Kansas City, Mo.
Rotor Tool Co., The, Cleveland, Ohio
Superior Pneumatic Division of Herband Tools, Cleveland, Ohio
Thor Power Tool Co., Aurora, Ill.
Weldit, Inc., Detroit, Mich.

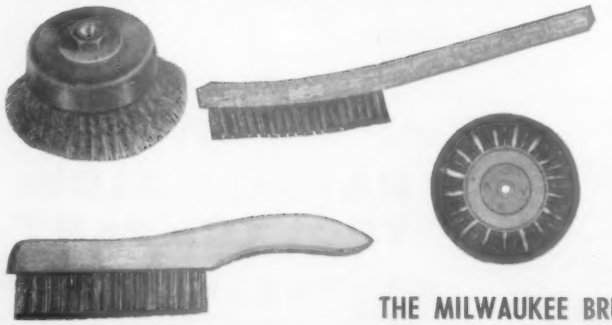
WELDER TRAILERS

General Electric Co., Schenectady, N. Y.
Hobart Bros. Co., The, Troy, Ohio
Westinghouse Electric Corp., Pittsburgh, Pa.

WELD NUTS

Grip Nut Co., Chicago, Ill.
Ohio Bolt & Nut Co., Berea, Ohio
Smith Bros. & Hughes, San Diego, Cal.

WIRE BRUSHES *Power Driven and Hand Type for*



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The "Milwaukee" line offers high quality brushes for the welding industry. Knot-type wheel and cupbrushes (power driven), wire hand scratch brushes (hand used).

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WELD-IDENTIFICATION HAMMERS

Acromark Co., Elizabeth, N. J.

WELD-MEASURING GAGES

American Oxygen Service Corp., Harrison, N. J.
Chicago Tool & Engineering Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Harnischfeger Corp., Milwaukee, Wis.
Liquid Carbonic Corp., The Wall Chemicals Div., Chicago, Ill.
Metro Manufacturing Co., Long Island City, N. Y.
Nageldinger & Son, J., Inc., New York, N. Y.
Superior Oxy-Acetylene Mach. Co., Hamilton, Ohio
Victor Equipment Co., San Francisco, Calif.
Weldit, Inc., Detroit, Mich.
Westinghouse Elec. Corp., Pittsburgh, Pa.

WELD THROUGH SEALERS

Dayton Chemical Prod. Lab., Inc., West Alexandria, Ohio
Key Co., E. St. Louis, Ill.
Northeast Metals Co., Philadelphia, Pa.
Presstite Engineering Co., St. Louis, Mo.

WELD-TIME RECORDERS

Brush Development Co., The, Cleveland, Ohio
Harnischfeger Corp., Milwaukee, Wis.
Hewlett-Packard Co., Palo Alto, Calif.
Rubicon Co., Philadelphia, Pa.
Westinghouse Electric Corp., Pittsburgh, Pa.

WELDING FITTINGS

Bonney Forge & Tool Works, Allentown, Pa.
Bridgeport Brass Co., Brdigeport, Conn.
Cooper Alloy Foundry Co., The, Hillside, N. J.
Crane Co., Chicago, Ill.
Globe Steel Tubes Co., Milwaukee, Wis.
Grinnell Co., Providence, R. I.
Ladish Co., Cudahy, Wis.
Lenape Hydraulic Press & Forging Co., West Chester, Pa.
Mallory, R. R., & Co., Inc., Indianapolis, Ind.
Midwest Piping & Supply Co., Inc., St. Louis, Mo.
Northern Indiana Brass Co., Elkhart, Ind.
Taylor Forge & Pipe Works, Chicago, Ill.
Tube Turns, Louisville, Ky.
Walworth Co., New York, N. Y.
Watson-Stillman Co., Roselle, N. J.
Welding Fittings Corp., Newcastle, Pa.

WELDING FLANGES

Bonney Forge & Tool Works, Allentown, Pa.
Crane Co., Chicago, Ill.
Globe Steel Tubes Co., Milwaukee, Wis.
Grinnell Co., Providence, R. I.
Harrisburg Steel Corp., Harrisburg, Pa.
Ladish Co., Cudahy, Wis.
Midwest Piping & Supply Co., Inc., St. Louis, Mo.
Taylor Forge & Pipe Works, Chicago, Ill.
Tri-Clover Machine Co. Kenosha, Wis.
Tube Turns, Louisville, Ky.
Vogt, Henry, Machine Co., Louisville, Ky.
Walworth Co., New York, N. Y.
Watson-Stillman Co., Roselle, N. J.
Welding Fittings Corp., Newcastle, Pa.

WELDING GUIDES and SUPPORTS

Diamonite Prod. Div., U. S. Ceramic Tile Co., Canton, Ohio
Grinnell Co., Providence, R. I.
Lewis Welding & Engrg. Corp., Bedford, Ohio

WELDING POSITIONERS

(See: "Positioners")

WELDING SCHOOLS

All-State Welding Alloys Co., Inc., White Plains, N. Y.
Cleveland School for Welding, Cleveland, Ohio
Eutectic Welding Alloys Corp., Flushing, N. Y.
Greer Shop Training, Chicago, Ill.
Hobart Bros. Co., The, Troy, Ohio
Lincoln Electric Co., Cleveland, Ohio
Milwaukee School of Engineering, Milwaukee, Wis.
Smith, A. O., Corp., Milwaukee, Wis.
Utilities Engineering Institute, Chicago, Ill.
Welding & Metal Trades School, Brooklyn, N. Y.
Westinghouse Electric Corp., Pittsburgh, Pa.

WELDING TABLES

Aronson Machine Co., Arcade, N. Y.
Bentley Weldery, Inc., Syracuse, N. Y.
Challenge Machinery Co., The, Grand Haven, Mich.
Chicago Hardware Foundry Co., North Chicago, Ill.
Eastern Equipment Co., Inc., Willow Grove, Pa.
Federal Tool Engineering Co., Cedar Grove, N. J.
Grand Specialties Co., Chicago, Ill.
Graves, Ed. J., Jamestown, N. Y.
Hamilton Tool Co., The, Hamilton, Ohio
Harnischfeger Corp., Milwaukee, Wis.
Hobart Bros., Co., Troy, Ohio
Papec Machine Co., Shortsville, N. Y.
Peck, Cecil C., Co., Cleveland, Ohio
Victor Equipment Co., San Francisco, Calif.
Wiese Plow Welding Co., Perry, Iowa
Worthington Corp., Dunellen, N. J.

WELDING TEST PLATES

Chicago Hardware Foundry Co., North Chicago, Ill.
CBC Industries, Inc., New York, N. Y.

WET BLASTING MACHINES

Pangborn Corp., Hagerstown, Md.
Vacu-Blast Co., Inc., Belmont, Calif.
Wet Blast Mfg. Co., Inc., Detroit, Mich.
Wheelabrator Corp., Mishawaka, Ind.

WIRE BRUSHES, Hand

Anderson Corp., Worcester, Mass.
Arcos Corp., Philadelphia, Pa.
Atlas Welding Accessories Co., Ferndale, Mich.
Fibre-Metal Products Co., The, Chester, Pa.
Herbrand Tools, Fremont, Ohio
Manufacturers Brush Co., The, Cleveland, Ohio
Milwaukee Brush Mfg. Co., The, Milwaukee, Wis.
Osborn Manufacturing Co., Cleveland, Ohio
Pittsburgh Plate Glass Co., Brush Div., Baltimore, Md.
Solo-Horton Brush Co., Inc., New York, N. Y.

WIRE BRUSHES, Rotary and Cup, Power

L. B. Allen Co., Inc., Chicago, Ill.
Anderson Corp., Worcester, Mass.
Black & Decker Mfg. Co., Towson, Md.
Herbrand Tools, Fremont, O.
Manufacturers Brush Co., The, Cleveland, Ohio
Milwaukee Brush Mfg. Co., The, Milwaukee, Wis.
Osborn Manufacturing Co., Cleveland, Ohio
Pittsburgh Plate Glass Co., Brush Div., Baltimore, Md.
Rotor Tool Co., Cleveland, Ohio
Skil Corp., Chicago, Ill.
Solo-Horton Brush Co., Inc., New York, N. Y.
Swiss Laboratory, Cleveland, Ohio
United States Electric Tool Co., The, Cincinnati, Ohio

WIRE CLOTH

Chase Brass & Copper Co., Waterbury, Conn.
Hewitt-Robins, Inc., Stamford, Conn.

WIRE CUTTERS

Aircraft-Marine Products, Inc., Harrisburg, Pa.
Armstrong-Blum Mfg. Co., Chicago, Ill.
Bartlett Mfg. Co., Detroit, Mich.
Champion De Arment Tool Co., Meadville, Pa.
Crescent Tool Co., Jamestown, N. Y.
Duro Metal Products Co., Chicago, Ill.
Ideal Industries, Inc., Sycamore, Ill.
Lewis Machine Co., The, Cleveland, Ohio
Manco Mfg. Co., Bradley, Ill.
O'Neil-Irwin Mfg. Co., Lake City, Minn.
Porter, H. K., Inc., Somerville, Mass.
Sandvik Saw & Tool (Division of Sandvik Steel Inc.), New York, N. Y.

WIRE ROPE

American Cable Division of American Chain & Cable Co., Inc., Wilkes-Barre, Pa.
American Steel & Wire Co., Cleveland, Ohio
Bethlehem Steel Co., Bethlehem, Pa.
Broderick & Bascom Rope Co., St. Louis, Mo.
Colorado Fuel and Iron Corp., Denver, Colo.
Columbia Steel Co., United States Steel Corp., Subsidiary, San Francisco, Calif.
Crucible Steel Co. of America, New York, N. Y.
Hazard Wire Rope Division of American Chain & Cable Co., Inc., Wilkes-Barre, Pa.
Johnson Steel & Wire Co., Inc., Worcester, Mass.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Lamson & Sessions Co., The, Cleveland, Ohio
LeTourneau, R. G., Inc., Peoria, Ill.
Paulsen-Webber Cordage Corp., New York, N. Y.
Roebling's, John A., Sons Corp., Trenton, N. J.
Sasgen Derrick Co., Chicago, Ill.
Sunbury Wire Rope Mfg. Co., Sunbury, Pa.
Upson-Walton Co., The, Cleveland, Ohio

WIRE STRAIGHTENERS

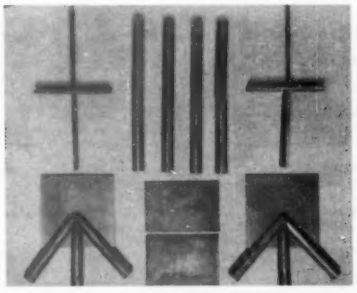
Aufhauser Bros. Co., New York, N. Y.
Eisler Engineering Co., Inc., Newark, N. J.
Ideal Industries, Inc., Sycamore, Ill.
Lewis Machine Co., The, Cleveland, Ohio
Metallizing Engineering Co., Long Island City, N. Y.
Westinghouse Electric Corp., Pittsburgh, Pa.

WORK BENCHES, Steel

Angle Steel Stool Co., Plainwell, Mich.
Aurora Equipment Co., Equipto Division, Aurora, Ill.
Berger Manufacturing Division, Republic Steel Corp., Canton, Ohio
Bond Foundry and Machine Co., Manheim, Pa.
Challenge Machinery Co., The, Grand Haven, Mich.
Delta Mfg. Division of Rockwell Mfg. Co., Milwaukee, Wis.
Lyon Metal Products, Inc., Aurora, Ill.
Market Forge Co., Everett, Mass.
Republic Steel Corp., Cleveland, Ohio
Richard-Wilcox Mfg. Co., Aurora, Ill.
Standard Pressed Steel Co., Jenkintown, Pa.

X-RAY AND RADIUM PROTECTION

Bar-Ray Products, Inc., Brooklyn, N. Y.
Canadium Radium & Uranium Corp., New York, N. Y.
Division Lead Co., Summit, Ill.
General Electric Co., X-Ray Dept., Milwaukee, Wis.
Industrial Products Co., Philadelphia, Pa.
Kelley-Koett Mfg. Co., Covington, Ky.
Ray Proof Corp., New York, N. Y.
St. John X-Ray Laboratories, Califon, N. J.



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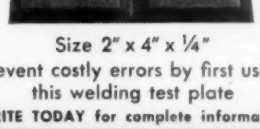

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TRADE NAME INDEX

An Alphabetical List of Trade Names Employed by Manufacturers of Welding Equipment, Tools and Supplies Whose Products Are Listed in this Buyer's Reference Number, with the Names of the Manufacturers and the Products to Which they Refer.

THE fact that trade names appear in this list does not mean that we guarantee them to be registered or the property of the manufacturers concerned.

WARNING—Therefore, no user of this reference, should, without independent verification, rely upon any information appearing in this section when so doing might result in loss or damage of any kind.—Welding Engineer Publications, Inc.

In the cases where two or more companies have submitted the same trade name for the same product and there is any question as to the rightful owner of the trade name, we have eliminated it entirely from our list.

Where initials are shown as trade names in this list, they are grouped at the start of the listings under each letter. Where two or more separated words or hyphenated words constitute a trade name, such as "Sure Hold" or "Sure-Hold," the first word standing alone determines the location of the listing, whereas when the two words are used as one, such as "Surehold," the name is listed in order according to the entire word.

Some trade names may have been inadvertently omitted. At the same time, some names you consider to be trade names may not be such, in fact. Therefore, if you cannot locate the name for which you are looking in the "Trade Name Index," look for a similar name in the "Classified List" among the manufacturers shown under the product in which you are interested.

A

A—Flux for cast iron welding. Bierman-Everett Foundry Co., Irvington, N. J.

AAA—Hand Hack Blades. E. C. Atkins & Co., Indianapolis, Ind.

ABC—Aluminum welding fluxes No. 8. Anti-Borax Compound Co., Fort Wayne, Ind.

AC-1—Mild steel, A-C—D-C (AWS E-6011) electrode. Harnischfeger Corp., Milwaukee, Wis.

AC-3—Mild steel, A-C—D-C (AWS E-6013) electrode. Harnischfeger Corp., Milwaukee, Wis.

ACU—Oxygen, acetylene, nitrogen. Acetylene Co., of Utah, Salt Lake City, Utah

AC WELD—Carbon electrodes. Speer Carbon Co., St. Marys, Pa.

A.E.—Rust preventives and removers. Wyandotte Chemical Corp., Wyandotte, Mich.

A.E.F.—Spot butt, seam and tube welders. American Electric Fusion Corp., Chicago, Ill.

AEF Copper—Welding tips for spot welding. American Electric Fusion Corp., Chicago, Ill.

AEF Sealdfit—Hose fittings. American Electric Fusion Corp., Chicago, Ill.

AG—Silver solder flux. Farreloy Co., Philadelphia, Pa.

AO—Coats, short jackets, overalls, sleeves, aprons, capes, trousers, spats, legging and gloves. Welding goggles and lenses. American Optical Co., Southbridge, Mass.

AP-3—Mild steel, reverse polarity (AWS E-6310), electrode. Harnischfeger Corp., Milwaukee, Wis.

APW—Silver brazing alloys. American Platinum Wks., Newark, N. J.

A-R Steel (USS)—Abrasion resisting steel. United States Steel Corporation, Pittsburgh, Pa.

ASMC—Flux. Farreloy Co., Philadelphia, Pa.

AWP—Spectacles and lenses for welders' and chippers' goggles and helmets. Eastern Equip. Co., Inc., Willow Grove, Pa.

AWP—Welding and brazing wires. Aluminum Wire Products Co., Inc., Glastonbury, Conn.

AW-2B—Manganese molybdenum alloy (AWS E-10020) electrode. Harnischfeger Corp., Milwaukee, Wis.

AW-3C—Austenitic stainless (Type 307) electrode. Harnischfeger Corp., Milwaukee, Wis.

AW-4—Chrome-moly low alloy (AWS E-10012) electrode. Harnischfeger Corp., Milwaukee, Wis.

AW-79—Electrode for automatic welding. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.

ABRASALOY—Tube, hard facing. Industrial Overlay Metals, Inc., Eaton, Ohio

ABRASIVEWAY—Grinding wheels. Simonds Abrasive Co., Philadelphia, Pa.

ABRASCOTE—Alloy steel electrodes. Harnischfeger Corp., Milwaukee, Wis.

ABRASOWELD—Hardfacing electrode. Lincoln Electric Co., Cleveland Ohio

ABRAZALOY—Hardfacing rod. Industrial Overlay Metals, Eaton, Ohio.

ABSO-LUTE—Sealing compound. Key Co., E. St. Louis, Ill.

ACCO—Chain and hooks for chain and wire rope. American Chain Div., American Chain & Cable Co., Inc., York, Pa.

ACE FLUX—Flux for acetylene welding. Hobart Bros. Co., Troy, Ohio.

ACE-HIGH—Fire hose. The Home Rubber Co., Trenton, N. J.

ACE WELDER—Leather welding gloves. E. J. Streichert, Chicago, Ill.

ACET-A-TIPS—Soldering Tips. Acet-A-Tips Co., Chicago, Ill.

ACETOGEN—Cutting gases, flame-hardening and priming equipment, generators, flame-cutting machines and tips. Acetogen Gas Co., Detroit, Mich.

ACETYLITE—Automatic torch Lighter for Oxy-Acetylene Welders. Aufhauser Brothers Corp., New York, N. Y.

ACID-BAN—Safety Goggles. Bausch & Lomb Optical Co., Rochester, N. Y.

ACME—Spot welders and resistance welding equipment. Acme Electric Welder Co., Los Angeles, Calif.

ACME—Welding positioners and automatic welding fixtures and polishing, buffing, grinding and wire brushing, etc., machinery. Acme Mfg. Co., Detroit, Mich.

ACMELOY—Resistance welding electrodes. Acme Electric Co., Los Angeles, Calif.

ACCURATE—Fire extinguishers. Pyrene Manufacturing Co., Newark, N. J.

ACCURATE FREEZING-PROOF CHARGE—Fire extinguisher recharges. Pyrene Manufacturing Co., Newark, N. J.

ACID CAUSTICBOND—Vinyl chemical and corrosion resistant paint. The Wilbur & Williams Co., Boston, Mass.

ACORN—Bending blocks. Acorn Iron and Supply Co., Philadelphia, Penn.

ACRO—Resistance welding machinery. Acro Welder Mfg. Co., Milwaukee, Wis.

ACROINK—Metal marking inks. Acromark Co., Newark, N. J.

ACROMARK—Marking machines. The Acromark Co., Elizabeth, N. J.

ACROMATIC—Resistance welding machines. Acro Welder Mfg. Co., Milwaukee, Wis.

ACROMAGNETIC—Magnetic force spot and projection welders. Acro Welder Mfg. Co., Milwaukee, Wis.

ACROPRINTER—Welding rod printing machines. Acromark Co., Elizabeth, N. J.

ACROSTAMP—Steel stamps. The Acromark Co., Elizabeth, N. J.

ACTARC—Coatings for welding electrodes. Actarc Inc., Cleveland, Ohio

ACTRON—Rectifier tubes and other electronic devices. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

ADALOX—Aluminum oxide coated abrasive. Behr-Manning Corp., Troy, N. Y.

ADA-STIC—High temperature insulating cement. Botfield Refractories Co., Philadelphia, Pa.

ADACHROME PLASTIC SUPERCEMENT—Fire brick cement. Botfield Refractories Co., Philadelphia, Pa.

ADACHROME SUPER CEMENT—High Temperature Bonding Mortar, Chrome Base. Botfield Refractories Co., Philadelphia, Pa.

ADAMANT—Fire brick cement. Botfield Refractories Co., Philadelphia, Pa.

ADAMS—Portable gun-type spot welder. Central Corp., Chicago, Ill.

ADAMULL RAMMING MIX—Alumina plastic firebrick material. Botfield Refractories Co., Philadelphia, Pa.

ADAPATCH—Firebrick material. Botfield Refractories Co., Phliadelphia, Pa.

ADJUST-A-ANGLE—Adjustable fixture for making multiple resistance spot welds at variable centers. S-M-S Corp., Detroit, Mich.

ADJUST-A-LEG—Equalizing slings. The Caldwell Co., Rockford, Ill.

ADJUST-O-LOK—Helmet attachment for headgear. Jackson Products, Inc., Warren, Mich.

ADJUST-A-PRESSURE—Adjustable pressure holders. S-M-S Corp., Detroit, Mich.

ADLER—Portable acetylene generator. Adler Mfg. Co., Milwaukee, Wis.

ADMIRAL—Power transmission cable. National Cable Corp., Milwaukee, Wis.

ADMIRAL—Electric drills, saws, grinders, buffers, etc. Bradford Machine Tool Co., Cincinnati, Ohio

ADVANCE—Rotary wire wheel brushes, weld-cleaning, wire hand and wire cup brushes and weld-cleaning tools. The Manufacturers' Brush Co., Cleveland, Ohio

AERISWELD—Bronze electrode. Lincoln Electric Co., Cleveland, Ohio

AERO—Welding torches. Harris Colorific Co., Cleveland, Ohio

AEROCARB—Liquid carburizing compound. American Cyanamid Co., New York, N. Y.

AEROCASE—Case hardening compound. American Cyanamid Co., New York, N. Y.

AERODYNE—Fans and blowers. The Jeffrey Manufacturing Co., Columbus, Ohio

AERODYNE—Dust collector. Green Fuel Economizer Co., Beacon, N. Y.

AERO-GUN—Low resistance test set. Shallcross Mfg. Co., Collingdale, Pa.

AERO HEAT—Heat treating salts. American Cyanamid Co., New York, N. Y.
AERO-JET—Light duty oxyacetylene torch. Marquette Mfg. Co., Inc., Minneapolis, Minn.
AGILE—Electrodes and welding rods. American Agile Corp., Cleveland, Ohio
AGITON—Aluminum cleaner. Turco Products, Inc., Los Angeles, Calif.
AGITOR—Cleaning machines for metal parts. Gray-Mills Corp., Evanston, Ill.
AGNEW—Brazing machines and resistance welders and transformers. Agnew Electric Co., Milford, Mich.
AGRIPPA—Clamps. J. H. Williams & Co., Buffalo, N. Y.
AIR BLASTER—Ventilating fan. Chelsea Fan & Blower Co., Inc., Irvington, N. J.
AIR WARDEN—Pressure regulators & air filters. Hannafin Corp., Chicago, Ill.
AIRCO—Acetylene, oxygen, nitrogen, argon and other atmospheric gas products, also welding and cutting apparatus, automatic welding and cutting machines, welding rods, electrodes and supplies. Air Reduction Sales Co., New York, N. Y.
AIRCOMATIC—Mig (metal inert-gas) welding equipment. Air Reduction Sales Co., New York, N. Y.
AIRCORE—Inflated grinding wheel. Nu-Matic Grinders, Inc., Cleveland, Ohio.
AIRCOSIL—Brazing alloys. Air Reduction Sales Co., New York, N. Y.
AIRCOSPOT—Tig (tungsten inert-gas) spot welding equipment. Air Reduction Sales Co., New York, N. Y.
AIRCRAFT—Light-duty torch. The K-G Equipment Co., Inc., New York, N. Y.
AIRCRAFTER—Rectifier d-c arc welder. Miller Electric Mfg. Co., Appleton, Wis.
AIRCRAFTER—Welding turntable. Superior Welding Co., Los Angeles, Calif.
AIRCRAFT SPECIAL—Motor generator. Hobart Bros. Co., Troy, Ohio
AIR-FLOW—Air-fed welding helmet. Chicago Eye Shield Co., Chicago, Ill.
AIRFLOW—Cover goggles. U. S. Safety Service Co., Kansas City, Mo.
AIR—HARDENING — Martensinc steel hardfacing rod. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
AIRLITE—Transparent protective garments. Standard Safety Equipment Co., Chicago, Ill.
AIRLOX—Pneumatic & Hydraulic vises. Production Devices, Inc., Whitehall, N. Y.
AIRMATIK—Clamp. Kajon Mfg. Co., El Segundo, Calif.
AIR-MOVER—Ventilating blowers. Mine Safety Appliance Co., Pittsburgh, Pa.
AIR-O-LINE—Pneumatic controller. Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
AIRSAN—Grease and air filters and welder filters. Air Filter Corp., Milwaukee, Wis.
AIR-SPEED—Multiple resistance welder. The Taylor-Winfield Corp., Warren, Ohio
AIRTAMER—Blow gun. Norgren Co., C. A. Denver, Colo.
AIRTITE—Air and hydraulic vises, valves and cylinders. Production Devices, Inc., Whitehall, N. Y.
AIRTRON—Glass cloth rubber impregnated flexible tubing. Arrowhead Rubber Co., Los Angeles, Calif.
AIRVAN—Steel. Firth Sterling Steel and Carbide Corp., McKeesport, Pa.
AJAX—Hose. Hewitt-Robins, Inc., Stamford, Conn.
AJAX—Induction furnaces. Ajax Electrothermic Corp., Div. Ajax Metal Co., Ajax Park, Trenton, N. J.
AJAX—Electric arc welding machines. Railway Trackwork Company, Philadelphia, Pa.
AJAX-HULTGREN—Electric salt bath furnaces. Ajax Electric Co., Philadelphia, Pa.
AJAX-NORTHRUP—Induction heating equipment and electric induction furnaces. Ajax Electrothermic Corp., Trenton, N. J.
ALADDIN—Rod for welding zinc base metals & soldering or brazing aluminum. Aladdin Rod & Flux Mfg. Co., Grand Rapids, Mich.
ALBOX—Aluminum flux. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada
ALCLEANER—Welding flux cleaner. Colonial Alloys Co., Philadelphia, Pa.
ALCOA—Aluminum alloys, welding and brazing rods, electrodes, welding and brazing fluxes, solder wire, castings, sheet, plate, tubing, etc. Aluminum Co. of America, Pittsburgh, Pa.
ALCOA I. G.—Aluminum welding wire for the Mig and Tig processes. Aluminum Co. of America, Pittsburgh, Pa.
ALFCO—Fire extinguishers. American LaFrance-Foamite Corp., Elmira, N. Y.
ALFITE—Fire extinguishers and aircraft systems. American LaFrance-Foamite Corp., Elmira, N. Y.
ALFLEX—Flux coated electrodes. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada
ALFRAX—Refractories. The Carborundum Co., Niagara Falls, N. Y.
ALJAY—Leather welder's clothing. Aljay Mfg. Co., Inc., Philadelphia, Pa.
ALKALUME—Aluminum cleaner. Northwest Chemical Co., Detroit, Mich.
AL-OX—Aluminum oxide papers and cloths. Clover Manufacturing Co., Norwalk, Conn.
ALOXITE—Coated abrasives. Carborundum Co., The, Niagara Falls, N. Y.
ALPHADIENE—Metal degreasing solvent. Colonial Alloys Co., Philadelphia, Pa.
ALL-PLASTIC—Plastic cover lens. Thermacote Co., Los Angeles, Calif.
ALL-PURPOSE—Handles. Martin Wells, Inc., Los Angeles, Calif.
ALL-REZ—Abrasives. Clover Mfg. Co., Norwalk, Conn.
ALL-STATE—Alloys, fluxes, solders, welding & brazing rods, electrodes galvanizing powder, silver dispenser, etc. All-State Welding Alloys Co., Inc., White Plains, New York.
ALL-WEATHER—First aid kits. Mine Safety Appliances Co., Pittsburgh, Pa.
ALLEGHENY METAL—Stainless steels. Allegheny Ludlum Steel Corp., Pittsburgh, Pa.
ALLEN—A-c transformer type arc welders and combination spot and arc welders. Allen Electric and Equipment Co., Kalamazoo, Mich.
ALLEN—Brazing alloys and rings, wire scratch brushes, fluxes and compounds, solder. L. B. Allen Co., Chicago, Ill.
ALLFLEX—All-purpose hose. Raybestos-Manhattan, Inc., Passaic, N. J.
ALLISON—Arc welding electrode holder. Allison Tool and Engineering Co., Los Angeles, Calif.
ALLMAND—A-c arc welders. Allmand Bros. Mfg. Co., Holdrege, Nebr.
ALLOY No. 1180—Copper-silver brazing alloy. Alloy Specialties Co., Swissvale, Pa.
ALLOY No. 1270—Copper-silver brazing alloy. Alloy Specialties Co., Swissvale, Pa.
ALLOY No. 1300—Copper brazing alloy. Alloy Specialties Co., Swissvale, Pa.
ALLOY ROD—Carbon molybdenum arc welding rod. Wilson Welder and Metals Co., Inc., New York, N. Y.
ALLOY RINGS—Performed brazing alloys. Alloy Ring Silver, Inc., Indianapolis, Ind.
ALLSAFE—Welder's clothing, goggles, helmets and accessories. American Allsafe Co., Buffalo, N. Y.
ALL-WELD—All-position welding electrode. Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
ALNICO—Aluminum, nickel and iron alloy. Taylor-Wharton Iron and Steel Co., High Bridge, N. J.
ALOXITE—Bonded abrasives and coated abrasives. The Carborundum Co., Niagara Falls, N. Y.
ALPHATRON—Polonium static eliminator. Canadian Radium and Uranium Corp., New York, N. Y.
ALPHIL—Spot welder machines. Alphil Spot Welder Mfg. Co., Brooklyn, N. Y.
ALTEM—Flux and alloy coated gas welding rods. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada
ALTERNEX—Coated arc welding electrode. Metal and Thermit Corp., New York, N. Y.
ALUBRO-WELD—Tinted protective welding lens. Willson Products, Inc., Reading, Pa.
ALUMAR—Aluminum gas welding rod. Arcos Corp., Philadelphia, Pa.
ALUMAWELD—Aluminum solder and flux. Johnson Mfg. Co., Inc., Mount Vernon, Iowa.
ALUMEX—50-60, 70 Fire brick and kiln liners. Mexico Refractories Co., Mexico, Mo.
ALUMEND—Coated aluminum arc-welding electrodes. Arcos Corp., Philadelphia, Pa.
ALUMINOX—For cast aluminum welding rods and aluminum flux. Central Steel & Wire Co., Chicago, Ill.
ALUMINOX—Aluminum oxide wheels. American Emery Wheel Works, Providence, R. I.
A-LUM-ITE—Rod for brazing aluminum and welding white metals. United Welding Service Co., Franklin, Pa.
ALUMITE—Fire brick, refractory cement, preheating furnaces and refractories. The Massillon Refractories Co., Massillon, Ohio
ALUMINWELD—Aluminum welding electrode. Lincoln Electric Co., Cleveland, Ohio
ALUMSIL—Welding cast aluminum silicon rods. Chicago Hardware Foundry Co., North Chicago, Ill.
ALUNDUM—Grinding wheels, abrasives, refractories. Norton Co., Worcester, Mass.
ALUNDUM—Abrasive cloth. Armour & Co., Alliance, Ohio
ALUTIN—Special solder for aluminum. Eutectic Welding Alloys Corp., Flushing, N. Y.
ALWAYS RELIABLE—Blow torches, firepots. Otto Bernz Co., Inc., Rochester, N. Y.
ALWELD—Oxygen, acetylene and medical trucks. Welded Truck & Specialty Co., Inc., Chicago, Ill.
ALZO-LITE—Floodlight. Benjamin Mfg. Co., Des Plaines, Ill.
A-MAL-GAM—Fluxes. Smith Welding Equipment Corporation, Minneapolis, Minn.
AMAZALOY—Steel hardening compound. All-State Welding Alloys Co., Inc., White Plains, N. Y.
AMAZI—Plastic welding insulator, paste type. Amazi Reliner Corp., Royal Oak, Mich.
AMBRALOY—Copper aluminum alloys. American Brass Co., Waterbury, Conn.
AMCO—Soldering, brazing and welding fluxes, aluminum solder, tinning and galvanizing compounds. American Solder & Flux Co., Philadelphia, Pa.
AMCOHOOD—Welding helmets. Eastern Equipment Corp., Willow Grove, Pa.
AMCO-GOGGLE—Goggles, welders and chippers. Eastern Equipment Corp., Willow Grove, Pa.
AMCOROD—Oxyacetylene welding rods. Eastern Equipment Corp., Willow Grove, Pa.
AMCOWELD—Oxyacetylene and arc welding accessories, safety equipment and clothing. Eastern Equipment Corp., Willow Grove, Pa.
AMERCLAD—Electrical cables. American Steel and Wire Co., Cleveland, Ohio

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AMERCLAD—Wire cables. Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
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AMERICAN—Calcium carbide. American Carbide & Chemical Corp., St. Louis, Mo.
AMERICAN—Flexible metal hose and tubing. American Oxygen Service Corp., Harrison, N. J.
AMERICAN—Hoist, electric. American Hoist & Derrick Co., St. Paul, Minn.
AMERICAN—Chain. American Chain Div., American Chain & Cable Co., Inc., York, Pa.
AMERICAN—Hose, clamps. American Stamping Co., Battle Creek, Mich.
AMERICAN—Vises, cutters, benders, pipe reamers and die stock sets. American Pipe Tool Co., Chicago, Ill.
AMERICAN—Spot welders. Sterling Utilities Co., Inc., Brooklyn, N. Y.
AMERICAN—Flexible metal hose and tubing. The American Brass Co., American Metal Hose Branch, Waterbury, Conn.
AMERICAN—Electrical Wire & Cables. American Steel & Wire Co., Cleveland, Ohio
AMERICAN FARM—Arc welder. Precision Welder Mfg. Co., Chicago, Ill.
AMERROD—Oxyacetylene rods, bars and flux coated electrodes. Eastern Equipment Corp., Willow Grove, Pa.
AMERTRAN—Electric transformers. American Transformers Co., Newark, N. J.
AMER-WELD—Electric spot welding machines. American Transformer Co., Newark, N. J.
AMESWELD—Reesistance welding equipment. Ames Spot Welder Co., Brooklyn, N. Y.
A-MOL—Hand hack blades. E. C. Atkins & Co., Indianapolis, Ind.
AMP—Solderless wiring devices. Aircraft-Marine Prod. Co., Harrisburg, Pa.
AMPCO-BRAZ—Gas filler rods. Ampco Metal, Inc., Milwaukee, Wis.
AMPCO-TRODE—Coated aluminum bronze welding electrodes. Ampco Metal, Inc., Milwaukee, Wis.
AMPCO-WELD—Resistance welding electrodes and accessories. Brazing flux. Ampco Metal, Inc., Milwaukee, Wis.
AMPERE—Canvas stitched belting. Victor Balate & Textile Belting Co., New York, N. Y.
AMPEREX—Control tubes for resistance welding and other electronic tubes. Amperex Electronic Corp., Hicksville, L. I., N. Y.
AMPLI-PRESS—Terminals, connectors and crimping tools. Aircraft-Marine Prod. Co., Harrisburg, Pa.
AMPOWER—Portable spot welder. Ampower Prod. Co., Oak Lawn, Ill.
AMPRJBE JUNIOR—Ammeters. Pyramid Instrument Corp., Lynbrook, N. Y.
AMSCO—General product line, including all welding rods. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
AMWEL—Welding and brazing fluxes and rods. Metal cleaners and compounds, brazing alloy rings, brazing soldering and welding alloys, aluminum and metallizing wire. American Welding Alloys Corp., Brooklyn, N. Y.
AMWIRE—Amer. Welding Alloy, Inc., Brooklyn, N. Y.
ANACONDA—Brass products and copper and copper alloy welding rods. American Brass Co., Waterbury, Conn.
ANCOR—Sponge iron powder for electrode coatings. Hoeganaes Sponge Iron Corp., Riverton, N. J.
ANDERSON—Carbon arc torch, Albert & J. M. Anderson Mfg. Co., Boston, Mass.
ANDERSON—Wire wheel brushes & hand scratch brushes. Anderson Corp., Worcester, Mass.
ANDREX—Lightweight portable X-ray machines. Holger, Andreason, Inc., San Francisco, Calif.
ANDROSCOPE—Portable X-ray diffraction stress analyzer. Holger, Andreason, Inc., San Francisco, Calif.
ANNITE—Alloy welding rod. Bisset Steel Co., Cleveland, Ohio
ANODE—Welding electrode for use on cast iron. Lincoln Electric Co., Cleveland, Ohio
ANSUL—Fire extinguishers and chemicals. Ansul Chemical Co., Marinette, Wis.
ANTI-BORAX—Welding & brazing fluxes. Anti-Borax Compound Co., Fort Wayne, Ind.
ANTI-FOG—Compound for safety goggles lens to keep them from fogging. American Optical Co., Southbridge, Mass.
ANTI-FOG "COMP. MCG."—Compounds, anti-fog, lens cleaner. Merix Chemical Co., Chicago, Ill.
ANTI-SPATTER—Spatter preventive. Wolfe-Kote Co., Inc., Sheboygan, Wis.
ANTIGLARE—Lenses. Chicago Eye Shield Co., Chicago, Ill.
APPLETON—Plugs and receptacles, connectors, payout and take-up reels. Appleton Electric Co., Chicago, Ill.
AQUA SOL—Water soluble grinding compound. Wayne Chemical Products Co., Detroit, Mich.
AQUAMAG—Magnesium oxide filler in welding rod coatings. Foote Mineral Co., Philadelphia, Pa.
AQUIFLUX—Soldering flux. Special Chemicals Co., New York, N. Y.
ARC-BAN—Protective welding lenses. Bausch & Lomb Optical Co., Rochester, N. Y.
ARC MASTER—Eleectrode holders. Wagner Manufacturing Co., Inc., Jackson, Mo.
ARC POSITIONER—Adiustable mount for automatic welding heads. Mark F. Gauran, Philadelphia, Pa.
ARC RITE—A-c arc welder. Mellaphone Corp., Rochester, N. Y.
ARC TIME TOTALIZER—Instrument recording. Hewlett-Packard Co., Palo Alto, Calif.
ARC-TWIN—Pipe and tube notching tools. Vogel Tool & Die Corp., Melrose Park, Ill.
ARCAIR—Arc gouging equipment and electrodes. Arcair Co., Bremerton, Wash.
ARCALOY—Stainless steel and heat resisting electrodes. Alloy Rods Co., York, Pa.
ARCAST—Electrode cast iron. American Arc Welders, Inc., Roseau, Minn.
ARC-BAN—Welding goggles. Bausch & Lomb Optical Co., Rochester, N. Y.
ARC-BAN—Welding plates for arc welding helmets. Kimball Safety Products Co., Cleveland, Ohio
ARC-CRAFT ELECTRODES—Electrodes. Allied Weld-Craft, Inc., Indianapolis, Ind.
ARC-FIT—Tube and pipe notching tools. Vogel Tool & Die Corp., Melrose Park, Ill.
ARC-FLEX—Cable. Arc Welding Supply Co., Bronx, N. Y.
ARCBRONZ—Coated phosphor bronze electrode for welding bronze, brass and copper. Hobart Bros. Co., Troy, Ohio.
ARCMASTER—High frequency unit for attachment to any type of A-C arc welder. Welding Apparatus Co., Chicago, Ill.
ARCOSITE—Stainless-steel flux. Arcos Corp., Philadelphia, Pa.
ARCOS—Special alloy electrodes. Arcos Corp., Philadelphia, Pa.
ARCO-WAND—Flux recovery unit. American Vacuum Co., Chicago, Ill.
ARCRONOGRAPH—Graphic instrument for recording uniformity of arc stream. Rubicon Company, Philadelphia, Pa.
ARC-TIME TOTALIZER—Current time. Exline Engrg. Co., Tulsa, Okla.
ARCTROL—Foot operated arc control. Mullenbach Div., Los Angeles, Calif.
ARCWELD—Electrodes. Miller Electric Mfg. Co., Inc., Appleton, Wis.
ARGONARC—Automatic welding equipment. National Cylinder Gas Co., Chicago, Ill.
ARMALOY—Alloy steel wrenches, socket and drive parts wrenches. Armstrong Bros. Tool Co., Chicago, Ill.
ARMCO—Steel sheets, (carbon), stainless steel sheets, strip, bar, wire. Tubing, mechanical welded, cold-rolled, zinc control, aluminum coated. Armco Steel Corp., Middletown, Ohio
ARMGLO—Resistance welders, automatic timers for resistance welders and resistance welding electrodes. Armglo Co., Milwaukee, Wis.
ARMITE—Hard facing material and welding rods. Armite Laboratories, Los Angeles, Calif.
ARMITE-ELD—Hardfacing rods, water course and mudgun nozzle. Armite Laboratories, Los Angeles, Calif.
ARMORARC—Armor welding electrodes. Alloy Rods Co., York, Pa.
ARMORIZE—Electrodes. Crucible Steel Co. of America, New York, N. Y.
ARMOR-TUF—Hardening compound. Armor-Tuf Sales Corp., New York, N. Y.
ARMOURCLAD and **ARMOURITE**—Abrasives. Armour & Co., Alliance, Ohio
ARMSTRONG—"C" Clamps and machinists vises. Armstrong Bros. Tool Co., Chicago, Ill.
ARMSTRONG—Pipe cutter wheels, etc. Collmer Bros., South Bend, Ind.
ARMSTRONG — Fire bricks, refractory cement, Armstrong Cork Co., Lancaster, Pa.
ARMSTRONG BRIDGEPORT—Pipe Tools. Capewell Mfg. Co., Hartford, Conn.
ARMSTRONG BROS.—Pipe vises; chain pipe vises; dies, bolt, stocks and dies. bolt. Armstrong Bros. Tool Co., Chicago, Ill.
ARO—Lubrication equipment, pneumatic tools and aircraft parts. The Aro Equipment Corp., Bryan, Ohio
ARO—Portable spot welders and automatic timers. Guthery Machine Tool Corp., Long Island City, N. Y.
ARONSON-TWINNER—Magnetic welding clamps. Aronson Machine Co., Arcade, N. Y.
ARROW-BLAST—Abrasive for sand blasting. Norton Co., Worcester, Mass.
ASBESTOS FIREMAN—Safety clothing. Wheeler Protective Apparel, Inc., Chicago, Ill.
ASCO—Acetylene. Acetylene Service Co., Denver, Colo.
ASHCROFT—Indicating and recording pressure gauges. Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
ATCO—Cast iron welding rods. Atlas Foundry Co., Cleveland, Ohio
ATCO ALLOY No. 7—Cast iron rods for high pressure welding. Atlas Foundry Co., Cleveland, Ohio
ATCO MOLY-NICKEL—Cast iron alloy welding rods. Atlas Foundry Co., Cleveland, Ohio
ATCOTRAN—Electrical measurement system. Automatic Temperature Control Co., Inc., Philadelphia, Pa.
ATCOTRONIC—Timers-contactors. Automatic Temperature Control Co., Inc., Philadelphia, Pa.
ATLAS—Electric arc welder. Precision Welder Mfg. Co., Chicago, Ill.
ATLAS—Cast iron welding flux. Air Reduction Sales Co., New York, N. Y.
ATLAS—Weld cleaning tools, cleaning brushes, dual-case & tools; marking hammers and hand stamps. Atlas Welding Accessories Co., Ferndale, Mich.
ATLAS—Torch lighters and flints. Flint Products, Co., Brooklyn, N. Y.
ATOM ARC—Iron-powder, low-hydrogen electrodes. Alloy Rods Co., York, Pa.
ATOMIC—Insulated electric holders. Welding Engineering Corp., Milwaukee, Wis.
ATOMIC—A. C. welders. Will-Weld Mfg. Co., Inc., Omaha, Neb.
ATRAX—Rotary files. The Atrax Co., Newington, Conn.
AUDUBON—Wire cloth. Manganese Steel Forge Co., Philadelphia, Pa.
AUFHAUSER—Machinery used in production of welding electrodes. Authauser Bros. Co., New York, N. Y.
AUTO-ARC—Welding head and automatic welding wire. Auto Arc Weld Mfg. Co., Cleveland Ohio
AUTO-BODY—Welding torches. Modern Engineering Co., St. Louis, Mo.
AUTOCHEMIC—Brazing fluxes. Eutectic Welding Alloys Corp., Flushing, N. Y.
AUTOGENIZER—Compound. Lincoln Electric Co., Cleveland, Ohio
AUTO-BLOC—Chain hoists. David Round & Son, Cleveland, Ohio
AUTO-LITE—Dials, indicating and recording thermometers and recording gauges. Instrument Div., Electric Auto-Lite Co., Toledo, Ohio
AUTOMAT—Welding torch. Modern Engineering Co., Inc., St. Louis, Mo.
AUTOMATIC—Welding torches. The Harris Calorific Co., Cleveland, Ohio
AUTO-WELD-MATON—Automatic welding fixture. Pandiiris Weldment Co., St. Louis, Mo.
AVIATOR—Welding torch. Modern Engineering Co., St. Louis, Mo.
AVIATOR JET—Welding and cutting torches. Modern Engineering Co., St. Louis, Mo.
AXIAL AIRFOIL—Fans. Chicago Blower Corp., Franklin Park, Ill.
AXIVANE—Fans. Joy Mfg. Co., Pittsburgh, Pa.
AZTEX—Fire brick. Mexico Refractories Co., Mexico, Mo.

B

B&B—Safety slings. Broderick & Bascom Rope Co., St. Louis, Mo.
B&H—Welder's gloves, leather jackets, cape sleeves, overalls and pants and other accessories for welders and flame cutting operators. B&H Welders' Supplies, Portsmouth, Va.
B&W—Straight-edge held in place by magnets. B&W Co., Los Angeles, Calif.
BBB—Carbon electrodes, carbon plates and paste, cooper coated cored carbon electrodes, carbon brush sets. Becker Bros. Carbon Co., Cicero, Ill.
BH—Dual-spot welder. Hirst Electronic Development Ltd., London, Eng.
BMC—Pressure lock wrench, adjustable. BMC Mfg. Corp., Binghamton, N. Y.
BN—Metal cleaners. Wyandotte Chemical Corp., Wyandotte, Mich.
BR—Hardfacing rod. Mir-O-Cal Alloy Co., Los Angeles, Calif.
BABY GEORGE—Small universal ram-type welder. Cecil B. Peck Co., Cleveland, Ohio
BADGER—Permanent air filters. Badger Corp., Milwaukee, Wis.
BAFFLE CRETE—For monolithic baffle construction. Mexico Refractories Co., Mexico, Mo.
BAHCO—Pipecutters, forges, hand power hoists, ladles, pipe bending machines, metalcutting shear-machines and pipe vises. Sandvik Saw & Tool, New York, N. Y.
BAL-GUARD—Bausch & Lomb Optical Co., Rochester, N. Y.
BAL-SAFE—Bausch & Lomb Optical Co., Rochester, N. Y.
BAL-SPEC—Bausch & Lomb Optical Co., Rochester, N. Y.
BALBACH—Dry oxygen and acetylene. The Balbach Co., Omaha, Neb.
BALDOR—Grinders & motors, bench and pedestal. Baldor Electric Co., St. Louis, Mo.
BALDWIN—Roller chains. Chain Belt Co., Milwaukee, Wis.
BALL-GRIP—Electrode holder. McClary & Byers Equipment Co., Oakland, Calif.
BALTOGRAPH—Portable X-day unit. Balteau Electric Corp., Stamford, Conn.
BALTOSPOT—X-ray unit. Balteau Electric Corp., Stamford, Conn.
BANNER—Resistance welders. Banner Manufacturing Co., Milwaukee, Wis.
BANTAM—Welding torches. National Cylinder Gas Co., Chicago, Ill.
BANTAM BULLY—Pneumatic chipping and peening hammer. Superior Mfg. Co., Div., Bingham Herbrand Corp., Cleveland, Ohio
BANTAM BULLY FULFLO FILTER—Filters. Superior Mfg. Co., Div., Bingham Herbrand Corp., Cleveland, Ohio.
BANTAM CHAMP—DC arc welder, electric drive or generator only. Hobart Bros. Co., Troy, Ohio
BARGER—Dust collector. Ralph Maitland, Cleveland, Ohio
BAR-LOK—C clamps. Mechanics Engineering Co., Jackson, Mich.
BARNES—Pipe cutter wheels, etc. Collmer Bros., South Bend, Ind.
BARRET—Jacks. Duff Norton Mfg. Co., Pittsburgh, Pa.
BARTLETT COMPOUND LEVER — Metal cutting shears. Bartlett Manufacturing Co., Dtroit, Mich.
BASA—Machinist hammers. Greene, Tweed & Co., North Wales, Pa.
BASAR—Anti-rust compound. Bay State Abrasive Products Co., Westboro, Mass.

BASCO—Welders' clothing, gloves and protective garments. Boston Athletic Shoe Company, Cambridge, Mass.

BASCO-TEX—Flameproof duck and neoprene and plastic aprons. Associated Bag & Apron Co., Chicago, Ill.

BASIC—Hardfacing flux. Superweld Corp., North Hollywood, Calif.

BAYFLEX—Abrasive disc-wheels. Bay State Abrasive Prod. Co., Westboro, Mass.

BAY STATE—Grinding wheels, lapping stones, polishing wheels and abrasive bricks. Bay State Abrasive Products Co., Westboro, Mass.

BEAM-HUGGER—Trolley hoist. David Round & Son, Cleveland, Ohio

BEAMOGRAPH—Flame cutting machine. Air Reduction Sales Co., New York, N. Y.

BEARCAT—Electric hoists. The Harrington Co., Phila., Pa.

BEAVER—Pipe and bolt threading tools and machines. Beaver Pipe Tools, Inc., Warren, Ohio

BEAVER—Portable flame-cutting machine. The Burdett Oxygen Co., Cleveland, Ohio

BECKER BROS.—Replacement carbon brushes. Becker Bros. Carbon Co., Cicero, Ill.

BEFCO—Cast iron, cast aluminum and cast manganese bronze welding rods. Bierman-Everett Foundry Co., Irvington, N. J.

BEL-AIR—Air valves. The Bellows Co., Akron, Ohio

BELCO—Chemicals and equipment. Bogue Electric Mfg. Co., Paterson, N. J.

BELCON—Selenium rectifiers. Bogue Electric Mfg. Co., Paterson, N. J.

BELDEN—Welding cable and power supply cable. Belden Mfg. Co., Chicago, Ill.

BELL TOP—Torch lighters and flints. Flint Products Co., Brooklyn, N. Y.

BELMONT—Metals. Belmont Smelting & Refining Works, Inc., Brooklyn, N. Y.

BELMONT—Sand blasting and wet blasting equipment. Vacu-Blast Co., Inc., Belmont, Calif.

BEN-NEK—Electric holder. Ben-Nek Holder, Inc., Branford, Conn.

BERGEN—Pipe supports. Bergen Pipe Support Corp., New York, N. Y.

BERGER—Steel work benches and lockers. Berger Mfg. Div. of Republic Steel Corp., Canton, Ohio

BERG SHARK BRAND—Chisels, bolt and wire cutters, pliers and hand punches and vises. Sandvik Saw & Tool, New York, N. Y.

BERGSTROM—Portable hardness tester, microscope, rotary drill bits, strip for cat pads. Industrial Overlay Metals, Inc., Eaton, Ohio

BERKELEY—Continuous longitudinal seam welder. Penn Tool & Machine Co., Danville, Ill.

BERNARD-ARC—Slag-gas shielded welding process. Bernard Welding Equipment Co., Chicago, Ill.

BERYLCO—Electrodes. Beryllium Corp., Reading, Pa.

BERYL-TRODE—Copper-base alloy electrode. Ampco Metals, Inc., Milwaukee, Wis.

BESCO—Spot welder. Tweezer Weld Corp., Newark, N. J.

BESLY—Taps, drills, reamers and end mills. Besly-Welles Corp., Beloit, Wis.

BESLY TITAN—Abrasive wheels, discs. Besly-Welles Corp., Beloit, Wis.

BEST—Water hardening tool steel. Henry Disston & Sons, Inc., Philadelphia, Pa.

BEST EFFECT—Rust and stain removers for metals. Best Effect Chemical Co., Hackensack, N. J.

BEST YET—Coated cover lens and plates. Sellstrom Mfg. Co., Chicago, Ill.

BETA FLUX—Electrode coating material. Foote Mineral Co., Inc., Philadelphia, Pa.

BETTERWELD—Cast iron welding flux. Victor Equipment Co., San Francisco, Calif.

BIG AMP—Cable connectors. Plastal Manufacturing Co., Pasadena, Calif.

BIG BERTHA—Preheating torch. L. B. White Co., Onalaska, Wis.

BIG BRUTE—Welding ground clamp. Mueller Electric Co., Cleveland, Ohio.

BIG BULLY—Pneumatic hammer. Superior Mfg. Co., Div., Bingham Herbrand Corp., Cleveland, Ohio.

BIG CHIEF—Heavy-duty pedestal. Cayuga Machine & Fabricating Co., Inc., Depew, Buffalo, N. Y.

BIG CHIEF—Steel tape rule. Carlson Rules & Measures, Monrovia, Calif.

BIG GEORGE—Welding Fixture. Cecil C. Peck Co., Cleveland, Ohio

BIG THREE—Oxy-acetylene and electric arc welding equipment, welding rods, electrodes, and accessories, and oxygen and acetylene. Big Three Welding Equipment Co., Fort Worth, Texas.

BILLINGS—Wrenches. The Billings & Spencer Co., Hartford, Conn.

BINGHAMTON—Flexible shaft machines. Binghamton Flexible Shaft Div., Swartz & White Mfg. Co., Binghamton, N. Y.

BINGO—Soldering & Brazing tips. Beaverdell Co., Phoenix, Arizona

BINGROD—Welding rod. Bingrod Co., Kalamazoo, Mich.

BIRDSELL—A-c arc and spot welders; carbon arc torches. Birdsell Manufacturing Co., Los Altos, Calif.

BISCO—Electric-arc welding rods. Bisett Steel Co., Cleveland, Ohio

BLACK & DECKER—Portable electric tools. Black & Decker Mfg. Co., Towson, Md.

BLACK DEVIL—Welding electrodes. The Champion Rivet Co., Cleveland, Ohio

BLACK FLUX—Silver-brazing alloys. The American Platinum Works, Newark, N. J.

BLACK MAGIC—Hardfacing flux. Universal Welder Corp., Cleveland, Ohio

BLACKSMITH & GARAGE—Floor grinder. Clizbe Bros., Plymouth, Ind.

BLACK PANTHER—Twist drills. Cogsdill Twist Drill Co., Detroit, Mich.

BLANC—Liquid solder paste. Farrelloy Co., Phila., Pa.

BLASTFOE—Sand blasting helmets and masks. Mine Safety Appliance Co., Pittsburgh, Pa.

BLASTITE—Burner igniters. Eclipse Fuel Eng. Co., Rockford, Ill.

BLAZECRETE—Castable refractories. Johns-Manville, New York, N. Y.

BLINKER—Arc welding helmets. Welding Apparatus Co., Chicago, Ill.

BLU-MOL—Hole saws and hand and power hack saw blades. Millers Falls Co., Greenfield, Mass.

BLUE BOY—Differential hoist. Chisholm-Moore Hoist Corp., Tonawanda, N. Y.

BLUE BRUTE—Portable air compressor. Worthington Pump & Machinery Corp., Harrison, N. J.

BLUE CENTER STEEL—Wire rope. John A. Roebling's Sons Co., Trenton, N. J.

BLUE CHIP—High speed steel. Firth-Sterling Steel and Carbide Corp., McKeesport, Pa.

BLUEDAC—Mild steel electrode. Champion Rivet Co., Cleveland, Ohio

BLUE DEVIL—Mild steel electrodes. The Champion Rivet Co., Cleveland, Ohio

BLUE DEVIL 85—Low alloy electrodes. The Champion Rivet Co., Cleveland, Ohio

BLUE END—Wood folding rule. Master Rule Mfg. Co., Middletown, N. Y.

BLUE FLASH—Abrasive disc wheels. Bay State Abrasive Products Co., Westboro, Mass.

BLUE NOSE—File, handles. American Stamping Co., Battle Creek, Mich.

BLUE ROD No. 40—Cast iron welding electrodes. Marquette Mfg. Co., Minneapolis, Minn.

BLUE STAR—Knives. E. C. Atkins & Co., Indianapolis, Ind.

BLUE STRIPE—Silicon carbide papers and cloths. Clover Manufacturing Co., Norwalk, Conn.

BLUE TIP—Wood folding rule. Master Rule Mfg. Co., Middletown, N. Y.

BLUE TIP—Bronze welding rods. Mueller Brass Co., Port Huron, Mich.

BLUEDAC—Heavy, flux coated electrodes. The Champion Rivet Co., Cleveland, Ohio

BLUKOTE—A coated electrode. Central Steel and Wire Co., Chicago, Ill.

BLULINE—Welding lens. Sellstrom Mfg. Co., Palatine, Ill.

BLUWELD—Electrode drying oven. Fred C. Archer, Inc., Milwaukee, Wis.

BODY-GUARD—Welding helmets and gloves. Burdett Oxygen Co., Cleveland, Ohio

BOGUE—Electrical equipment. Bogue Electrical Equipment Co., Paterson, N. J.

BOKERWELD—Stainless steel and special alloy arc welding electrodes. H. Boker & Co., Inc., New York, N. Y.

BONALOY—Hand tools. Bonney Forge & Tool Works, Allentown, Pa.

BOND ROD—Ground clamp. H. B. Sherman Mfg. Co., Battle Creek, Mich.

BONNEY—Drop forged welding flanges. Bonney Forge and Tool Works, Allentown, Pa.

BORCOTE—Organic filler for welding. Foote Mineral Co., Philadelphia, Pa.

BORIUM—Tungsten carbide inserts and sand blast nozzles. Stoody Co., Whittier, Calif.

BOROD—Hardfacing rods and electrodes. Stoody Co., Whittier, Calif.

BOROLON—Grinding wheels. Simonds Abrasive Co., Philadelphia, Pa.

BOYCE—Centering head for pipe work. Contour Marker Corp., Compton, Calif.

BRASSWELD—Powdered brass flux for brazing steel, malleable iron and brass. Sight Feed Generator Co., West Alexandria, Ohio

BRAZ-CAST—Bronze brazing flux. Anti-Borax Compound Co., Fort Wayne, Ind.

BRAZE-CLAD—Silver brazing alloy clad metals. American Silver Co., Flushing, N. Y.

BRAZ-WELD—Self fluxing brazing rods. Krembs & Co., Chicago, Ill.

BRAZALL—Flux. F. R. Faulk Equip. Sales, Pittsburgh, Pa.

BRAZALOY—Welding and brazing alloys and fluxes. All-State Welding Alloys Co., Inc., White Plains, N. Y.

BRAZARC—Coated bronze arc welding electrode. Universal Welding Corp., Cleveland, Ohio.

BRAZEWELD—Brazing electrode. Lincoln Electric Co., Cleveland, Ohio

BRAZEWELL—Flux used for bronze welding. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada

BRAZO FLUX—Flux for bronze-welding and brazing. The Linde Air Products Co., New York, N. Y.

BRAZOX—Soft brass brazing wire. Central Steel & Wire Co., Chicago, Ill.

BREN/WELD—Arc and spot welders. Brennen, Bucci & Weber, Inc., New York, N. Y.

BRIDGEPORT—Bronze welding and brazing alloys. Bridgeport Brass Co., Bridgeport, Conn.

BRIDGEPORT—Chains. Bridgeport Chain & Mfg. Co., The, Bridgeport, Conn.

BRIGGS—Air operated portable automatic spot-welder. Briggs Mfg. Co., Detroit, Mich.

BRIGHT 110G—High carbon steel welding rod. Central Steel and Wire Co., Chicago, Ill.

BRIGHT BOY—Rubber abrasives, metal cleaners and polishers. Weldon Roberts Rubber Co., Newark, N. J.

BRISTOL'S—Time recorders, pyrometers and recording instruments. Bristol Co., Waterbury, Conn.

BRITEBLADE—Steel tape rule. Master Rule Mfg. Co., Middletown, N. Y.

BROMITE—Aircraft systems. American-La-France-Foamite Corp., Elmira, N. Y.

BRONCO 60 CERTIFIED—Welding cables. Western Insulated Wire Co., Los Angeles, Calif.

BRONZ-ARC—Bronze electrode. American Arc Welders, Inc., Roseau, Minn.

BRONZE-ARC—Bronze and copper electrodes. Alloy Rods Co., York, Pa.

BRONZE—ARC MN—Manganese bronze electrodes. Alloy Rods Co., York, Pa.

BRONZE DEVIL—Bronze electrode. Champion Rivet Co., Cleveland, Ohio

BRONZE-ROD No. 61—Bronze welding electrode. Marquette Mfg. Co., Minneapolis, Minn.

BRONZEND—Bronze-alloy electrodes. Arcos Corp., Philadelphia, Pa.

BRONZEWELD—Brazing fluxes for cast iron and steel. Alfco Labs, Chicago, Ill.

BRONZEWELD—Powdered bronze flux for brazing bronze, cast iron and steel. Sight Feed Generator Co., West Alexandria, Ohio

BRONZKOTE—Flux coated bronze rod. Central Steel and Wire Co., Chicago, Ill.

BRONZOCHROM—Bronze welding rods. Eutectic Welding Alloys Corp., Flushing, N. Y.

BRONZOLATEM—Low fuming brazing rods. Permalatem Welding Alloys Co., Red Bank, N. J.

BRONZOX M—Bronze gas welding rod. Central Steel & Wire Co., Chicago, Ill.

BROWN—Chains. Bridgeport Chain Mfg. Co., The, Bridgeport, Conn.

BROWNIE—Steel tape rule. Master Rule Mfg. Co., Middletown, N. Y.

BROWNING—Cutting and heating torches. Worcester Taper Pin Co., Worcester, Mass.

BRUNNER—Air compressors and refrigeration units. Brunner Mfg. Co., Utica, N. Y.

BRYANT—Impact hammer. Bryant Products Distributing Co., Jackson, Mich.

BUCKEYE—Coil chain. The Cleveland Chain & Mfg. Co., Cleveland, Ohio

BUCKEYE—Portable air tools, portable electric tools, (hi-frequency only). Buckeye Tools Corp., Dayton, Ohio

BUDA—Diesel-electric and gasoline-electric generator sets. Buda Div., Allis-Chalmers Mfg. Co.

BUDDY—Steel tape rule. Carlson Rules & Measures, Monrovia, Calif.

BUDGIT—Electric hoists, chain blocks, cord reels, trolleys and crane assemblies. Manning, Maxwell & Moore, Inc., Muskegon, Mich.

BUFFALO—Fans, benders, sheers, blowers, collectors, exhausters and bending rolls. Buffalo Forge Co., Buffalo, N. Y.

BUFFALO—Fire extinguishers, rechargers and fire alarms. Buffalo Fire Appliance Corp., Dayton, Ohio

BULL DOG—Marking machine. Acromark Co., Elizabeth, N. J.

BULL DOG—Welding hose. Boston Woven Hose & Rubber Co., Cambridge, Mass.

BULL DOG—Metal electrode holder. Welding Engineering Corp., Milwaukee, Wis.

BULLDOG—A-C arc welder. Mid-States Welder Mfg. Co., Chicago, Ill.

BULLDOG—File holders. Remont Mfg. Co., Lombard, Ill.

BULLDOG—Tractor grip-lugs, repointer bars,grouser bolts and nuts, applicator bars, etc. Allied Tractor & Steel Prod. Corp., Cleveland, Ohio

BULLARD—Respirator. E. D. Bullard Co., San Francisco, Calif.

BULLS-EYE—Welding gloves and protective clothing. Universal Leather Co., Berlin, Wis.

BULL'S HEAD—Flint abrasive. Armour & Co., Alliance, Ohio

BULLY BLOW GUN—Blow gun. Superior Mfg. Co., Div., Bingham Herbrand Corp., Cleveland, Ohio

BUMBLE BEE—A-c welder. Air Reduction Sales Co., New York, N. Y.

BUNELL—Special tools, dies, jigs, fixtures and special machines. Bunell Machine & Tool Co., Cleveland, Ohio

BUNDYWELD—Steel tubing, monel tubing, and nickel tubing. Bundy Co., Detroit, Mich.

BURDOX—Goggles. Burdett Oxygen Company, Cleveland, Ohio

BURNER'S AID—Circle cutter for manual flame-cutting torches. Arcair Co. Lancaster, Ohio

BURRO—Locomotive crane. Cullen-Friestadt Co., Chicago, Ill.

BURT-WELD—Welding lens. B. F. McDonald Co., Los Angeles, Calif.

BUSYBEE—A-c arc welder. Air Reduction Sales Co., New York, N. Y.

BUTT ON SPOT—Butt welding attachment. Robert W. Hoffman Co., Inc., Chicago, Ill.

BUX—Magnetic plate clamp. Buck Mfg. Co., Los Gatos, Calif.

C

C-5—Cutting torch. Harris Calorific Co., Cleveland, Ohio

C-30—Hard surfacing electrode. The Champion Rivet Co., Cleveland, Ohio

CCC METAL—Welding tips for spot welding machines. American Electric Fusion Corp., Chicago, Ill.

CCOCO—Oxygen and acetylene gases compressed in cylinders. Corpus Christi Oxygen Co., Corpus Christi, Texas

CEE—Aluminum "C" clamps. Foster Alum. Alloy Prod. Corp., Forestville, N. Y.
C-F—Welding positioners and sheet lifters, Cullen-Friestedt Co., Chicago, Ill.
C-H—Magnetic and electronic timers, contactors and accessories. Cutler-Hammer, Inc., Milwaukee, Wis.
C-L—Chipping and slag removal hammers, and first aid kits. Carter-Lockard Co., Los Angeles, Calif.
C&L—Blow torch and air pots. Clayton & Lambert Mfg. Co., Louisville, Ky.
CM—Ratchet lever hoist and cranes. Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
CM—Fire retardant. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
CM-50—Alloy electrode. Harnischfeger Corp., Milwaukee, Wis.
CMD—Chipping hammers. Chicago Mfrs. & Distributing Co., Chicago, Ill.
CMD TEXTITE—Air separators, (filters). Chicago Mfg. & Distributing Co., Chicago, Ill.
CP—Pneumatic tools, weld flux chippers, scaling tools, hose couplings and files. Chicago Pneumatic Tool Co., New York, N. Y.
CR—Air control valve. Eclipse Fuel Engineering Co., Rockford, Ill.
CS—Nickel and copper welding electrode. Tennessee Fabricating Co., Memphis, Tenn.
CV—Constant voltage d-c welder. Hobart Bros. Co., Troy, Ohio
CW-45—Cutting attachment for conversion of blowpipe into cutting torch. Linde Air Products Co., New York, N. Y.
CABLE KING—Wire rope, electric hoist. The Yale & Towne Mfg. Co., Philadelphia, Pa.
CABLE-TITE—Cable connectors. National Cylinder Gas Co., Chicago, Ill.
CADDY—Arc welding accessories. Erico Products, Inc., Cleveland, Ohio
CADET—Cutting flame machines and tips. American Pullmax Co., Inc., Chicago, Ill.
CADWELD—Electrical connections. Erico Products, Inc., Cleveland, Ohio
CALDER—Grinding wheel, dressers and cutters. Calder Mfg. Co., Lancaster, Pa.
CALOBAR—Filter glass plates and lenses. American Optical Co., Southbridge, Mass.
CAM-LOK—Cable connectors and lugs and electrode holders. Cam-Lok Div., Empire Prod., Inc., Cincinnati, Ohio
CAMOGRAPH—Oxyacetylene cutting machine. Air Reduction Sales Co., New York, N. Y.
CAMPBELL—Abrasive cutting machines. Campbell Machine Div. of American Chain & Cable Co., Inc., Bridgeport, Conn.
CAMPBELL—Chain. International Chain & Mfg. Co., York, Pa.
CANADIAN—Calcium carbide. Shawinigan Products Corporation, New York, N. Y.
CANALLOY—Hardfacing electrodes and welding rods. Canton Alloys, Inc., Canton, Ohio
CANDEE-SMITH—Governors for gas engine driven electric welders. Candee's Machine Shop, Los Angeles, Calif.
CANDOR—Gloves. Candor Glove Co., Candor, N. Y.
CAN'T BEAT EM—Tool handles. O. P. Link Handle Co., Salem, Ind.
CAPUTO-CRAWFORD—Kinetic stored energy system for resistance welding. Progressive Welder Co., Detroit, Mich.
CARBIC—Calcium carbide and floodlights. The Linde Air Products Co., New York, N. Y.
CARBO—Oxygen, carbo-hydrogen, welding and cutting equipment, welding supplies and accessories. National Cylinder Gas Co., Chicago, Ill.
CARBO—Baked carbons. Hobart Brothers Co., Troy, Ohio
CARBOFLEX—Grinding wheels. The Carborundum Co., Niagara Falls, N. Y.
CARBOFRAX—Refractories. The Carborundum Co., Niagara Falls, N. Y.
CARBO-HYDROGEN—Fuel gas for welding and cutting. National Cylinder Gas Co., Chicago, Ill.
CARBOLITE—Calcium carbide. The Linde Air Products Co., New York, N. Y.
CARBOLITE—Silicon carbide wheels. American Emery Wheel Works, Providence, R. I.
CARBOLOY CEMENTED CARBIDES—Metal cutting tools, woodworking tools, masonry drills, wire drawing dies. Carboloy Dept., General Electric Co., Detroit, Mich.
CARBONAIRE—Flamecutting machine. Hobart Bros. Co., Troy, Ohio
CARBON-MOLY 50—Electrode. Metal & Thermit Corp., New York, N. Y.
CARBON PUTTY—Carbon compound. Smith Welding Equipment Corporation, Minneapolis, Minn.
CARBORA—Grinding wheels and abrasive products. Cortland Grinding Wheels Corp., Chester, Mass.
CARBORUNDUM—Bonded abrasives and coated abrasives. The Carborundum Co., Niagara Falls, N. Y.
CARBURS—Carbide rotary files. Lincoln Park, Inc., Lincoln, Mich.
CAREND—A-C welding electrode. Arcos Corp., Philadelphia, Pa.
CARHOFF—Electrode holder. Carhoff Co., Cleveland, Ohio
CARILLOY—Alloy steels. United States Steel Corp., Pittsburgh, Pa.
CAROL—Welding cable. Carol Cable Co., Pawtucket, R. I.
CAROLUS—Bolt, rod and wire cutters. Manco Mfg. Co., Bradley, Ill.
CARPENTER—Stainless steel bars, strip, drill rod, welded tubing, welding rods, tool steel, alloy steel, etc. Carpenter Steel Co., Reading, Pa.
CARPENTER STAINLESS No. 20—Wire for weld rods. The Carpenter Steel Co., Reading, Pa.
CASCADE—Oxygen and nitrogen. The Linde Air Products Co., New York, N. Y.
CASCO—Liquid and paste flux. Flux-All Chemical Products, New York, N. Y.
CASH-ACME—Regulators and valves. A. W. Cash Valve Manufacturing Corp., Decatur, Ill.
CASTALOY—Cast to shape bucket repointers. Industrial Overlay Metals, Eaton, Ohio
CASTINGWELD—Electrode for welding cast iron. Westinghouse Electric Corp., E. Pittsburgh, Pa.
CAST-I-NICKEL—Electrode for cast iron welding. Champion Rivet Co., Cleveland, Ohio
CASTIRONARC—Arc welding electrodes. Universal Welding Corp., Cleveland, Ohio
CAST-I-STEEL—Electrode for cast iron welding. Champion Rivet Co., Cleveland, Ohio
CASTOLIN—Cast-iron welding rods. Eutectic Welding Alloys Corp., Flushing, N. Y.
CASTOMATIC—Bar Solder. Federated Metals Div., American Smelting & Refining Co., New York, N. Y.
CASTOX—Welding rod and flux. Central Steel & Wire Co., Chicago, Ill.
CAST REFRACT—Refractories. Quigley Co., Inc., New York, N. Y.
CAST-ROD No. 42—Electrode. Marquette Mfg. Co., Minneapolis, Minn.
CASTWELD—Rod. Steel Sales Corp., Chicago, Ill.
CASTWELD—For welding cast-iron. Rankin Mfg. Co., Los Angeles, Calif.
CAYUGA-MATIC—Automatic welding equipmeent. Cayuga Machine & Fabricating Co., Inc., Depew, N. Y.
CAYUGA-VAC—Arc melting furnaces and vacuum vessels. Cayuga Machine & Fabricating Co., Inc., Depew, N. Y.
CELL CRETE—Castable refractory. Mexico Refractories Co., Mexico, Mo.
CENTRI-MERGE—Dust collector. Schmieg Industries, Inc., Detroit, Mich.
CENT-R-LINE—Turning rolls. Cecil C. Peck Co., Cleveland, Ohio
CERTAIN CURTAIN—Electric heat treating furnaces. C. I. Hayes, Inc., Providence, R. I.
CERTI-CRIMP—Terminals, connectors and crimping tools. Aircraft-Marine Prod. Co., Harrisburg, Pa.
CERTIFIED—Stainless steel electrodes. McKay Co., Pittsburgh, Pa.
CESCO—Goggles, helmets, face shields, respirators. Chicago Eye Shield Co., Chicago, Ill.
CESCOWELD—Glass for lenses and in plate form for welding goggles and helmets for oxyacetylene and electric welding. Chicago Eye Shield Co., Chicago, Ill.
CHAIN-O-FLEX—Overhead conveyor. Industrial Equipment Co., Chicago, Ill.
CHALLENGE—Lapping plates, layout surface plates, bench plates, work benches, surface plate, straight edges, solid parallels, box parallels, angle plates, V blocks and abrasive cut off machines. Challenge Machinery Co., Grand Haven, Mich.
CHALLENGE—Steel tapes. Lufkin Rule Co., Saginaw, Mich.
CHALLENGER—A-c welder. A. O. Smith Corp., Welding Products Division, Milwaukee, Wis.
CHALLENGER—Spur gear hoist. Coffing Hoist Co., Danville, Ill.
CHAMBERS—Helmet goggles for oxy-acetylene welding and cutting. Carter-Lockard Co., Los Angeles, Calif.
CHAM-CUT—Electric-arc electrode. Pacific Welding Alloys Co., Inc., Los Angeles, Calif.
CHAMFERTRODE—Gouging electrode. Eutectic Welding Alloys Corp., Flushing, N. Y.
CHAMP—Electric arc welder. Precision Welder Mfg. Co., Chicago, Ill.
CHAMPION—A-c welder. A. O. Smith Corp., Welding Products Div., Milwaukee, Wis.
CHAMPION—Air compressors. Champion Pneumatic Mach. Co., Chicago, Ill.
CHAMPION—Electrodes. The Champion Rivet Company, Cleveland Ohio
CHAMPION—Pneumatic tools. The Dallet Co., Philadelphia, Pa.
CHAMPION—Pipe vise stand. Nye Tool Co., Chicago, Ill.
CHAMPION—Welding goggles, lens. Burdett Oxygen Co., Cleveland, Ohio
CHAMPION—Fluorescent and incandescent lamps. Champion Lamp Works, Lynn, Mass.
CHAMPION AIRCRAFT—Electrodes for air craft welding. The Champion Rivet Co., Cleveland, O.
CHAMPION DE ARMENT—Hammers, chiseles, etc. Champion DeArment Tool Co., Meadville, Pa.
CHANITE—Self-welding electric heating element flux. Chanite Sales Co., Fort Worth, Texas
CHANNELLOCK—Pliers. Champion De Arment Tool Co., Meadville, Pa.
CHASE—Brass, bronze, and copper products. Chase Brass & Copper Co., Inc., Waterbury, Conn.
CHEEPEE—Plastic goggles. Watchemoket Optical Co., Providence, R. I.
CHEK-SHOCK—Cushion for protecting regulators and valves on oxygen, hydrogen and other high pressure gas systems. Chek-Shock Mfg. Co., Fowler, Calif.
CHELSEA—Ventilating fans and blowers. Chelsea Fan & Blower Co., Inc., Plainfield, N. J.
CHEMALLOY—Aluminum welding rod. Sightmaster Corp., New Rochelle, N. Y.
CHESTER—Hoist trolleys, etc. The National Screw & Mfg. Co., Chester Hoist Div., Lisbon, Ohio
CHICAGO GRINDING—Grinding wheels. Chicago Wheel & Mfg. Co., Chicago, Ill.
CHICAGO MOUNTED—Mounted wheels. Chicago Wheel & Mfg. Co., Chicago, Ill.
CHIEF—Fire hose. Quaker Rubber Corp., Philadelphia, Pa.
CHIEF—Steel tape rule. Carlson Rules & Measures, Monrovia, Calif.
CHIEFTAIN—Automatic-welding fixture. Cayuga Machine & Fabricating Co., Inc., Depew-Buffalo, N. Y.
CHIMO—Steel. Firth Sterling Steel & Carbide Corp., McKeesport, Pa.
CHINALAK—Insulating varnish. John C. Dolph Co., Newark, N. J.
CHIP-BAN—Safety glasses. Bausch & Lomb Optical Co., Rochester, N. Y.
CHIP-WELD—Combination welding and chipping goggle. Willson Products, Inc., Reading, Pa.
CHROMANG—Austenitic electrodes. Arcos Corp., Philadelphia, Pa.
CHROME-CLAD—Steel tapes. Lufkin Rule Co., Saginaw, Mich.
CHROME MOLY—Welding rod. Central Steel & Wire Co., Chicago, Ill.
CHROME VANOX—Alloy welding rod. Central Steel and Wire Co., Chicago, Ill.
CHROMEFACE—Austenitic high chromium iron hardfacing rods. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
CHROMEND—Stainless steel electrodes for d-c welding. Acme Corp., Philadelphia, Pa.
CHROMIX—Refractories. Quigley Co., Inc., New York, N. Y.
CHROMOLY—Series of high tensile electrodes. Champion Rivet Co., Cleveland, Ohio
CINCH—Steel cement. Claud S. Gordon Co., Chicago, Ill.
CIRCLE—Hose clamp. Air Reduction Co., New York, N. Y.
CIRCLE C—High-speed steel bits. Firth-Sterling Steel and Carbide Corp., McKeesport, Pa.
CIRCLE MIXER—Mixing device in oxy-acetylene torches. Modern Engineering Co., St. Louis, Mo.
CIROD—Cast iron weld rod. Cirod Distributing Corp., Lyons, Ill.
CLAMP MASTER—Clamps. Grand Specialties Co., Chicago, Ill.
CLAMPCUT—Milling machine vice and milling cutter. J & S Tool Co., Inc., Livingston, N. J.
CLARK—Electric drills and sanders. James Clark, Jr. Electric Co., Louisville, Ky.
CLASP—Welding cable disconnect splice. Burndy Engineering Co., Inc., New York, N. Y.
CLEAN WELD—Welding and brazing wires. Aluminum Wire Products Co., Inc., Glastonbury, Conn.
CLECO—Pneumatic chippers, hammers and scaling tools. Cleco Div., Reed Roller Bit Co., Houston, Texas
CLEEPEE—Goggles (one piece). Watchemoket Optical Co., Inc., Providence, Rhode Island.
CLE-FORGE—High-speed drills. The Cleveland Twist Drill Co., Cleveland, Ohio.
CLEANWELD—Spatter resisting compound. Hobart Bros. Co., Troy, Ohio
CLEMCO—Sandblasting equipment. Clementina, Ltd., San Francisco, Calif.
CLEPO—Cleaning compounds. Frederick Gumm Chemical Co., Kearny, N. J.
CLETALOY—Material for resistance welding electrodes. Cleveland Tungsten, Inc., Cleveland, Ohio
CLE-TUNG—Tungsten electrode, atomic hydrogen and inert arc electrodes. Cleveland Tungsten, Inc., Cleveland, Ohio
CLEVELAND TRAMRAIL—Overhead materials handling eqiupment. The Cleveland Crane and Engineering Co., Wickliffe, Ohio.
CLEVE-TUNG—Welding products. Cleveland Tungsten, Inc., Cleveland, Ohio
CLINTON—Wire cloth. Wickwire Spencer Steel Div., The Colorado Fuel & Iron Corp., New York, N. Y.
CLIZBE—Electric bench and floor grinders—and saw mandrels. Clizbe Bros. Mfg. Co., Plymouth, Ind.
CLIZBE ECONOMY—Bench grinder. Clizbe Bros. Mfg. Co., Plymouth, Ind.
CLIZBE SUPER—Bench grinder. Clizbe Bros. Mfg. Co., Plymouth, Ind.
CLOVER—Abrasive papers and cloths, and lapping compounds. Clover Mfg. Co., Norwalk, Conn.
CLOVER—Crayons for marking of metals. Whittaker, Clark & Daniels, Inc., New York, N. Y.
C-O TWO—Fire extinguisher equipment. C-O Two Fire Equipment Co., Newark, N. J.
COAST METALS—Powder welding alloys, brazing alloys, hard facing electrodes and rods, and automatic welding wire. Coast metals, Inc., Little Ferry, N. J.
COAST TWO-WAY—Chipping and scaling air hammers. Coast Pneumatic Tool Co., Los Angeles, Calif.
COBALT—Lens. American Optical Co., Southbridge, Mass.
COBALTCHROM—Electrodes. Darwin & Milner, Inc., Cleveland, Ohio
COFEN—Burn solution for welding burns. Lee Wood, Inc., South Norwalk, Conn.
COFFING—Hoists. Coffing Hoist Co., Danville, Ill.
COLALLOY—Flux coated and uncoated welding rods. Colonial Alloys Co., Philadelphia, Pa.
COLAWELD—Flux paste, reaction solder rod. Colonial Alloys Co., Philadelphia, Pa.
COLCAP—Helmet liners for top of head. Jackson Products, Inc., Warren, Mich.
COLDARC—Electrodes. Eutectic Welding Alloys Co., Flushing, N. Y.

COLDWELL—Low temperature welding alloy. Eutectic Welding Alloys, Inc., Flushing, N. Y.
COLLMER—Grinding wheel dressers. Collmer Bros., South Bend, Ind.
COLLYER—Welding cables. Collyer Insulated Wire Co., Inc., Pawtucket, R. I.
COLMONOY—Hardfacing alloys and powder. Wall Colmonoy Corp., Detroit, Mich.
COLMONOY SPRAYWELDER—Powder metallizing gun. Wall Colmonoy Corp., Detroit, Mich.
COLMONOY SWEAT-ON PASTE—Abrasion resistant paste. Wall Colmonoy Corp., Detroit, Mich.
COLONIAL—Semi-finished form, sheets, rods, tubes, wire. Colonial Alloys Co., Philadelphia, Pa.
COLONIAL—Leather welders' wearing apparel. Colonial Tanning Co., Milwaukee, Wis.
COLONIAL—Compressed gases. New England Gas Products, Inc., Charlestown, Mass.
COLOR-GLANCE—Brinell hardness tester. Steel City Testing Machines, Inc., Detroit, Mich.
COLOR HELMET—Arc welding helmet. Thermacote Co., Los Angeles, Calif.
COLOR-STRIPE—Coated abrasive papers and cloths. Clover Manufacturing Co., Norwalk, Conn.
COLUMBIA—Tong test ammeter (a-c & d-c). Columbia Electric Mfg. Co., Cleveland, Ohio
COLUMBIAN—Vises. Columbian Vise Mfg. Co., Cleveland, Ohio
CO-MANG—Build-up austenitic manganese steel rod. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
C-OMANUAL—Semiautomatic CO_2 shielded welding process, with hand gun. A. O. Smith Corp., Milwaukee, Wis.
C-OMATIC—Automatic CO_2 shielded welding process. A. O. Smith Corp., Milwaukee, Wis.
COMBI—Electric drills. Wodack Electric Tool Corp., Chicago, Ill.
COMBO-TOOL—Grinders, (electric, portable). Porter-Cable Machine Co., Syracuse, N. Y.
COMET—Electric arc welder. Precision Welder Mfg. Co., Chicago, Ill.
COMET—Electric hoist. Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
COMET—Coated abrasives. Clover Manufacturing Co., Norwalk, Conn.
COMET—Air-control valve. Ross Operating Valve Co., Detroit, Mich.
COMET-ARC—Powder-metal electrode. The McKay Co., Pittsburgh, Pa.
COMFO—Respirator. Mine Safety Appliances Co., Pittsburgh, Pa.
COMMANDO—Jigs, positioners, tip cleaners, soldering tips, aluminum brazing rod and solder, white metal rod, flints and torch lighters, soapstone holders and hand cleaner. J. M. Ragle, Inc., Kansas City, Mo.
COMMERCIAL—Acetylene, argon, helium, oxygen and hydrogen. Commercial Gas Corp., Wilkes-Barre, Pa.
COMMERCIAL—Dissolved acetylene. Commercial Acetylene Supply Co., Inc., New York, N. Y.
COMMERCIAL—A-c arc welders. Electric Arc, Inc., Newark, N. J.
COMMERCIAL BUTANE—Auxiliary fuel. Hope Natural Gas Co., Clarksburg, W. Va.
COMPOUND PRESSURE—Manifold assemblies. National Welding Equip. Co., San Francisco, Calif.
COMPRESS—Polishing wheels. Divine Brothers Co., Utica, N. Y.
CONCENTRIC—Projection press welder. Resistance Welder Corp., Detroit, Mich.
CONDENS-O-WELD—Resistance welding control. Westinghouse Electric Corp., E. Pittsburgh, Pa.
CONDOR—Oxyacetylene welding hose. Manhattan Ruber Mfg. Co., Div. Raybestos-Manhattan, Inc., Passaic, N. J.
CONNECTICUT—Fans, exhaust, jigs, fixtures and piping, blow. Connecticut Blower Co., Hartford, Conn.
CON-NEK—Cable connector. Ben Nek Holder Co., Inc., Branford, Conn.
CONSERVO—Hose. Hewitt-Robins, Inc., Stamford, Conn.
CONTINENTAL—Welding rods and electrodes. Continental Steel & Supply Co., San Francisco, Calif.
CONTINENTAL—Industrial furnaces. Continental Industrial Engineering, Inc., Chicago, Ill.
CONTINENTAL—Electrode holder. Welding Engineering Corp., Milwaukee, Wis.
CONTINENTAL RED SEAL—Gasoline engines. Continental Motors Corporation, Muskegon, Mich.
CONTOUR MARKERS—For layout on pipe and structural steel. Contour Marker Corp., Compton, Calif.
CONTOUR-MATIC—Machine tool. Do All Co., Desplaines, Ill.
CONTROLARC—Magnetic amplifier d-c rectifier welder. Vickers Electric Div., St. Louis, Mo.
COOL BAND—Sweat bands. Mine Safety Appliance Co., Pittsburgh, Pa.
COOL-CUT—Grinding wheels. Robertson Mfg. Co., Morrisville, Pa.
COOLIE—Electrode holders. Cam-Lock Div., Empire Products, Inc., Cincinnati, Ohio
COPOX—Flux. Canadian Liquid Air Co., Ltd., Montreal, Canada.
COPPER-ARC—Electrodes for cast iron. American Arc Welders, Inc., Roseau, Minn.
COPPERED 5G—Welding rods. Central Steel and Wire Co., Chicago, Ill.
COPPERED 6G—Welding wire. Central Steel and Wire Co., Chicago, Ill.
COPPERHEAD—Electrode holder jaw insulators. Wagner Mfg. Co., Jackson, Mo.
COPPUS—Ventilating blower, welding exhausters and exhaust fans. Coppus Engineering Corp., Worcester, Mass.
COPRCOAT—Steel wire for welding work. Allied Weld-Craft, Inc., Indianapolis, Ind.
CORODEX COIL CLEAN—Coil cleaner, lime scale remover from coils, tanks, steam tables, fountain coils, spray heads, compressor jackets, unit coolers, etc. Allied Products Co, Chicago, Ill.
CORODEX RUST REMOVER—Rust remover. Allied Products Co., Chicago, Ill.
CORROSION-PROOFED—Terminals, connectors and crimping tools. Aircraft-Marine Prod. Co., Harrisburg, Pa.
CORTA 52—Cutting machine. The Burdett Oxygen Co., Cleveland, Ohio
COR-TEN(USS)—Chromium, copper, silicon. United State Steel Subsidiaries, Pittsburgh, Pa.
CORTEX—Grinding wheels. Cortland Grinding Wheel Corp., Chester, Mass.
CORTLAND—Fluxes and compounds. Anti-Borax Compound Co., Inc., Fort Wayne, Ind.
CORTLAND—Grinding wheels. Cortland Grinding Wheels Corp., Chester, Mass.
CORVIC BRONZE—Copper alloy. Chase Brass & Cooper Co., Inc., Waterbury, Conn.
CORVITE—Polishing wheels and sticks. U. S. Rubber Co., Ft. Wayne, Ind.
COUSE—Portable welding shops. Couse Mfg., Inc., Newark, N. J.
COVERGLAS—Goggles. American Optical Co., Southbridge, Mass.
COVERSPECS—Goggles for welders who wear spectacles. Air Reduction Sales Co., New York, N. Y.
COWLES CLEANERS—Alkaline metal cleaners. Cowles Detergent Co., Cleveland, Ohio
COYNE—Acetylene cylinders. Coyne Mfg. Co., San Francisco, Calif.
CRACKERJACK—Grinding wheel dressers. The Desmond-Stephen Mfg. Co., Urbana, Ohio
CRAFTSWELD—Oxyacetylene welding and cutting equipment and underwater accessories. Craftsweld Equipment Corp., Long Island City, N. Y.
CRAMER—Timers. R. W. Cramer Co., Inc., Centerbrook, Conn.
CRANE—Valves, pipe fitting specialties, welded pipe joints, fitting, etc. Crane Co., Chicago, Ill.
CRANELAP—Welding nipple and flange. Crane Co., Chicago, Ill.
CRATER-FILLER—Foot-operated auxiliary control. General Electric Co., Schenectady, N. Y.
CRATEX—Rubber abrasives. Cratex Mfg. Co., San Francisco, Calif.
CRESCENT—Tempering compound. Anti-Borax Compounds Co., Fort Wayne, Ind.
CRESCENT—Non-preformed wire rope. American Cable Div. of American Chain & Cable Co., Inc., Wilkes-Barre, Pa.
CRESCENT—Wrenches, pliers, hacksaws, tinsnips, screwdrivers, punches, chisels. Crescent Tool Co., Jamestown, N. Y.
CRESTOLOY—Wrenches, pliers. Crescent Tool Co., Jamestown, N. Y.
CROBALITE—Hardfacing alloys. Crobalt, Inc., Ann Arbor, Mich.
CROLOX—Alloy steel. The Babcock & Wilcox Tube Co., Beaver Falls, Pa.
CROLOY—High carbon, high chrome, tool steel. Henry Disston & Sons, Inc., Philadelphia, Pa.
CROLOY—Chromium-moly electrodes. Metal & Thermit Corp., New York, N. Y.
CROLOY—Low-alloy steel arc welding electrode. Champion Rivet Co., Cleveland, Ohio
CROMALOY—Welding flux. The Linde Air Products Co., New York, N. Y.
CROMANSIL—Alloy steel. Lukens Steel Co., Coatesville, Pa.
CROMANSIL ELECTRIC—Arc welding electrode. Metal & Thermit Corp., New York, N. Y.
CROMOCO—Die steel. Firth-Sterling Steel and Carbide Corp., McKeesport, Pa.
CROMOVAN—Steel. Firth-Sterling Steel and Carbide Corp., McKeesport, Pa.
CROWN—Pipe-cutters wheels, etc. Collmer Bros., South Bend, Ind.
CRUCIBLE—Electrodes. Crucible Steel Co. of America, New York, N. Y.
CRUCIBLE ARC—Tool and die electrodes. C. E. Phillips & Co., Detroit, Mich.
CRUCIBLE ARC No. 600—Cast iron welding electrodes. C. E. Phillips & Co., Detroit, Mich.
CRYSTOLON—Abrasive grinding wheels and refractories. Norton Co., Worcester, Mass.
CRYSTOLON—Abrasives. Armour & Co., Alliance, Ohio
CUB—Pneumatic scaling tool. The Dallett Co., Philadelphia, Pa.
CUB—Electrode holders. Martin Wells, Inc., Los Angeles, Calif.
CUMALONG—Hoists. The Harrington Co., Philadelphia, Pa.
CUNO—Airline filters. J. N. Fauver Co., Inc., Detroit, Mich.
CUPALOY—An alloy for tips and wheels for electric resistance welding machines. Westinghouse Electric Corp., East Pittsburgh, Pa.
CURLED CHIP—Metal cutting saws. E. C. Atkins & Co., Indianapolis, Ind.
CUSHIONED POWER—Electronic timers. Robotron Corp., Detroit, Mich.
CUT-A-LINE—Portable flame cutting machine. Indiana Oxygen Co., Indianapolis, Ind.
CUT-O-MATIC—Portable flame cutting machine. National Cylinder Gas Co., Chicago, Ill.
CUT-ROD—Cutting electrode. Aufhauser Bros. Corp., New York, N. Y.
CUTAMATIC—Abrasive cutting machines. Campbell Machine Div. of American Chain & Cable Co., Inc., Bridgeport, Conn.
CUTLER HAMMER—Magnetic contactors, welding timers, switches and related electrical apparatus. Cutler-Hammer, Inc., Milwaukee, Wis.
CUTMASTER—Cutting torches. Modern Engineering Co., Inc., St. Louis, Mo.
CUTNO—Packing. Greene, Tweed & Co., North Wales, Pa.
CUTTEND—Arc-oxygen type electrode. Arcos Corp., Philadelphia, Pa.
CUTTRODE—Cutting electrodes. Eutectic Welding Alloys Corp., Flushing, N .Y.
CYCLODIENE—Metal degreasing solvent. Colonial Alloys Co., Philadelphia, Pa.
CYCLE-PROGRESS—Interval timers. Automatic Temperature Control Co., Inc., Philadelphia, Pa.
CYCLONE—Automatic arcing device. Ergolyte Mfg. Co., Philadelphia, Pa.
CYCLONE—Spur geared hoist. Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
CYCLONE—Mounted points. Robertson Mfg. Co., Morrisville, Pa.
CYCLONE—Portable sandblaster. Victor Equipment Co., San Francisco, Calif.

D

D8—Welding and cutting torches, regulators, supplies and accessories, acetylene generators, specially designed machines for automatic welding and cutting, etc. Air Reduction Sales Co., New York, N. Y.
D-9-VA—Vanadium tool steel. Henry Disston & Sons, Inc., Philadelphia, Pa.
D-29 SILICO—Manganese chisel steel. Hendy Disston & Sons, Inc., Philadelphia, Pa.
DH5—Powder-metal electrode. Harnischfeger Corp., Milwaukee, Wis.
DH-2—A-c, d-c electrode. Harnischfeger Corp., Milwaukee, Wis.
D&M—Arc welding electrodes. Darwin & Milner, Inc., Cleveland Ohio
D NICKEL—Form of nickel. The International Nickel Co., Inc., New York, N. Y.
DV—Start-stop control, gas and water control, and arc time totalizers. DV Controls Div., Engineer Instruments, Inc., Hayward, Calif.
DX ALLOY—Pneumatic and hand chisels. The Dallett Co., Philadelphia, Pa.
DALBO—Air hose couplings and fittings, air valves. The Dallett Co., Philadelphia, Pa.
DALHART—Spot welding guns, air hydraulic booster, multiple-spot, hydro-automatic welding unit. Dalhart Eng. & Mfg. Co., Van Dyke, Mich.
DALITE—Coated cover lens and goggle lens. L. H. Bullock Co., Richmond, Calif.
DALLETT HOSEDRILL—Pneumatic rotating drill. The Dallett Co., Philadelphia, Pa.
DALWELD—Cable connectors and cable. Dalweld Co., Mt. Vernon, N. Y.
DANDUX—Welding aprons and curtains. C. R. Daniels, Inc., New York, N. Y.
DARLING—Valves. Darling Valve & Mfg. Co., Williamsport, Pa.
DARWIN—Alloy welding electrodes and rods. Darwin & Milner, Inc., Cleveland, Ohio
DAYTON—Grinding wheels. Simonds Worden White Co., Dayton, Ohio
DAYTON SAFETY—Grinding wheels. Simonds Worden White Co., Dayton, Ohio.
DE BOTHEZAT—Exhaust fans. De Bothezat Fans Div., American Machine & Metals, Inc., East Moline, Ill.
DEFENSE—Shutoff valve. Security Valve Co., Los Angeles, Calif.
DEHYDRATOR—H_2O vapor removal from air and gas lines. Sales Corp., of America, Philadelphia, Pa.
DELLOY—Hard-facing material. Delloy Metals, Philadelphia, Pa.
DEN-NEX—Skin cream. Dennis Chemical Co., Inc., St. Louis, Mo.
DELTA—Files. Delta File Works, Inc., Philadelphia, Pa.
DELTA—Grinders, welders, machine tools, etc. Delta Power Tool Div. of Rockwell Mfg. Co., Milwaukee, Wis.
DELTA-MILWAUKEE—Grinders; welders; machine tools, etc. Delta Power Tool, Div. of Rockwell Mfg. Co., Chicago, Ill.
DEMON—Refractory cement. Plibrico Jointless Firebrick Co., Chicago, Ill.
DENS-O-MATIC—Automatic welding wire. Allied Weld-Craft, Inc., Indianapolis, Ind.
DENVER—Universal flame hardener. Stearns Roger Mfg. Co., Denver, Colo.
DEOXO—Silver brazing flux. The American Platinum Works, Newark, N. J.
DE-SCALER—Rust and scale remover. Turco Products, Inc., Los Angeles, Calif.
DESMOND-HEX—Grinding wheel dressers. The Desmond-Stephen Mfg. Co., Urbana, Ohio
DESMOND-HUNTINGTON—Grinding wheel dressers. Desmond-Stephen Mfg. Co., Urbana, Ohio
DESMOND-SHERMAN—Grinding wheel dressers. Desmond-Stephen Mfg. Co., Urbana, Ohio
DESMOND SIMPLEX—Vises. Desmond-Stephan Mfg. Co., Urbana, Ohio
DE-STA-CO—Toggle clamps; shim stock, steel and brass; feeler gauge, steels, welding fixture clamps. Detroit Stamping Co., Detroit, Mich.
DESPATCH—Heat treating ovens. Despatch Oven Co., Minneapolis, Minn.
DETROIT—Hoists and cranes. Detroit Hoist & Machine Co., Detroit, Mich.

DETROIT—Portable tensile tester. Detroit Testing Machine Co., Detroit, Mich.
DE VILBISS—Airline fittings and couplings, air compressors, fans and masks. The De Vilbiss Co., Toledo, Ohio.
DE WALT—Circular metal cutting saws. De Walt, Inc., Lancaster, Pa.
D HOLE-O-GRAPH—Flame-cutting machine. Vernon Tool Co., Ltd., Alhambra, Calif.
DI-ACRO—Benders brakes, shears, notchers, punches, rod parters, hydra-power benders and vari-o-speed powershear. O'Neil-Irwin Mfg. Co., Lake City, Minn.
DI-CAST—Welding rod. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada.
DIAL-AMP—A-C arc welders. Shober Sales, Inc., Stockton, Calif.
DIAL-CAL—Dial caliper. Precision Tool Sales Co., Los Angeles, Calif.
DIAL-ELECTRIC—A-c and d-c and combination a-c/d-c welders. Harnischfeger Corp., Milwaukee, Wis.
DIAMALLOY—Hard facing welding electrodes. The Diamalloy Co., Gowanda, N. Y.
DIAMITE—Welding rod. Weatherly Foundry and Mfg. Co., Weatherly, Pa.
DIAMOND M—Steel. Firth Sterling Steel & Carbide Corp., McKeesport, Pa.
DIAMOND W—Brick fire. Quigley Co., Inc., New York, N. Y.
DIAMOND-GRIP—Terminals, connectors and crimping tools. Aircraft-Marine Prod. Co., Harrisburg, Pa.
DIAMONITE—Welding guides and supports. Sandblast nozzles. Inert-gas welding cups. Diamonite Prods. Div., U. S. Ceramic Tile Co., Canton, Ohio
DIAMONDWELD—Hardfacing electrodes. A. O. Smith Corp., Welding Products Division, Milwaukee, Wis.
DI-BURS—Kellerflex carbide burs. Pratt & Whitney, Div. Niles-Bennet-Pond Co., West Hartford, Conn.
DICO—Felt polishing wheels and bobs. Divine Brothers Co., Utica, N. Y.
DIDYMIUM—Lenses. American Optical Co., Southbridge, Mass.
DIECARB—Blanking and forming dies. Firth-Sterling Steel & Carbide Corp., Pittsburgh, Pa.
DIEWELD—Electrode. Steel Sales Corp., Chicago, Ill.
DIEWELD—Electrode. Steel Sales Corp., Chicago; Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
DIFOLD—Buffs. Divine Brothers Co., Utica, N. Y.
DILLON—Portable tensile testing machines. W. C. Dillon and Co., Chicago, Ill.
DILUTERS—For pre-mixing gas. Eclipse Fuel Eng. Co., Rockford, Ill.
DIMALOY—Tungsten tube carbide. Industrial Overlay Metals, Eaton, Ohio
DIPWELL—Flux pot. Boyd Welding Supply Co., Erie, Pa.
DIRECTAIR—Air control valves. Hannifin Corp., Chicago, Ill.
DIRECTARC—D-c welding machine. General Electric Co., York, Pa.
DIRTY WORK—Flux. L. B. White Co., Onalaska, Wis.
DISC-CENTER—Wire wheel brushes. The Osborn Manufacturing Co., Cleveland, Ohio
DISKETTE—Portable electric tools. N. A. Strand Div. Franklin Balmar Corp., Baltimore, Md.
DIVCO—Alloys, tinning compounds, fluxes, solders, and metallizing wires. Division Lead Co., Summit, Ill.
DIVERSEY—Metal cleaners. The Diversey Corp., Metal Industries Dept., Chicago, Ill.
DIVINE—Abrasive belt grinding and polishing machine, polishing and buffing wheels, machinery and supplies. Divine Bros. Co., Utica, N. Y.
DIXON—Graphite rods and plate. Joseph Dixon Crucible Co., Jersey City, N. J.
D-LUX—Plastic goggles. Watchemoket Optical Co., Providence, R. I.
DO—Electrode holders. Plastal Manufacturing Co., Pasadena, Calif.
DO-ALL—Contour and high speed sawing machines; saw bands, surface grinders, butt welders, band filing machines, band files and welding machines. The Do-All Company, Des Plaines, Ill.
DO-ALL—Portable electric tool. Wodack Electric Tool Corp., Chicago, Ill.
DO-ALL ZEPHYR—High speed band saws. Do-All Co., Des Plaines, Ill.
DOC ALLOY KIT—Maintenance and sampler kit. All-State Welding Alloys Co., Inc., White Plains, N. Y.
DOCKSON—Welding equipment. Dockson Corp., Detroit, Mich.
DOMINION—Liquid air oxygen and nitrogen. Dominion Oxygen Company, Ltd., Toronto, Ont., Canada
DOUBLE CIRCLE—Drills and reamers, etc. Chicago-Latrobe Twist Drill Works, Chicago, Ill.
DOWMETAL—Magnesium alloys. The Dow Chemical Co., Midland, Mich.
DRAWALLOY—Spooled welding wire. Drawalloy Corp., York, Pa.
DRAWALLOY—Welding electrodes. Welding Equipment and Supply Co., Detroit, Mich.
DREDNAUT—Welding and chippers goggle. American Optical Co., Southbridge, Mass.
DRILVISE—Hydraulic, foot operated milling vise. Studebaker Machine Co., Maywood, Ill.
DRIOX—Oxygen and nitrogen. The Linde Air Products Company, Div. of Union Carbide and Carbon Co., New York, N. Y.
DRIVE FIT—Tips for burners. Eclipse Fuel Co., Rockford, Ill.
DRY-CRISP—Rust preventive. Merix Chemical Co., Chicago, Ill.
DRYROD—Electrode drying and storage ovens. Phoenix Prod. Co., Milwaukee, Wis.
DUALARC—D-c welding equipment. Electric Arc Inc., Newark, N. J.
DUAL-CASE—Weldor's case for welding rods & chipping tools. Atlas Welding Accessories Co., Ferndale, Mich.
DUAL GRIP—"C" clamps. Grand Specialties Co., Chicago, Ill.
DUAL HOSE—Twin hose. Burdett Oxygen Co., Cleveland, Ohio.
DUAL-HOSE—Welding hose. National Cylinder Gas Co., Chicago, Ill.
DUAL-LOCK—Shutoff valve. Eclipse Fuel Eng. Co., Rockford, Ill.
DUAL SHIELD—Automatic welding equipment. National Cylinder Gas Co., Chicago, Ill.
DUAL-TOOL—Combination weld cleaning tool. Atlas Welding Accessories Inc., Ferndale, Mich.
DUAL-WELD—Spot and arc welder. Delta Power Tool Div. of Rockwell Mfg. Co., Milwaukee, Wis.
DUCTO—Welding electrode. Hobart Bros., Troy, O.
DUCTONE—Electrodes. Chicago Steel and Wire Co., Chicago, Ill.
DUDGEON—Hydraulic jacks and pumps. Richard Dudgeon, Inc., New York, N. Y.
DUDGEON UNIVERSAL—Hydraulic jacks and pumps. Richard Dudgeon, Inc., New York, N. Y.
DUFF—Jacks. Duff-Norton Mfg. Co., Pittsburgh, Pa.
DUMORE—Grinders and flexible shaft machines. Dumore Co., The, Racine, Wis.
DUOGRAPH—Automatic power driven cutting machine. Air Reduction Sales Co., New York, N. Y.
DUO-SQUARE—Welding positioner. McFerron-Myers Products Co., Cleveland, Ohio
DUO-TROL—Combined heat control and magnetic welding timer. National Time and Signal Corp., Detroit, Mich.
DUO-TROL—Two-stage regulator. Weldit, Inc., Detroit, Mich.
DUOWELD—Filter lenses. Fish-Shurman Corp., New York, N. Y.
DUOWELD—Oxyacetylene hose. B. F. Goodrich Co., Akron, Ohio
DUPLEX—Welding and cutting torches. K-G Equipment Co., Inc., New York, N. Y.
DUPLEX—Hand grinder. Dumore Co., Racine, Wis.
DUPLEX—Abrasive belt grinders. Walls Sales Corp., New York, N. Y.
DUPLEX-TANDEM—Regulator. Modern Engineering Co., St. Louis, Mo.
DUPLICUTTER—Lightweight portable flamecutting machine. Victor Equipment Co., San Francisco, Calif.
DURA-BILT—Rotary wire wheelbrush. The Milwaukee Brush Mfg. Co., Milwaukee, Wis.
DURACUT—Abrasive disc-wheel. Bay State Abrasive Products Co., Westboro, Mass.
DURADIANT—Radiant ceramic gas burners. Selas Corp. of America, Philadelphia, Pa.
DURAFLEX—Arc welding cable. Westinghouse Electric Corp., Pittsburgh, Pa.
DURAGARD—Chipping goggles. American Optical Co., Southbridge, Mass.
DURAGARDE—Fire extinguisher. Pyrene Manufacturing Co., Newark, N. J.
DURALATEM—Hardfacing rods. Permalatem Welding Alloys, Inc., Red Bank, N. J.
DURALITE—Chippers goggles. American Optical Co., Southbridge, Mass.
DURALOY—Chrome-iron, chrome-nickel-steel, and nickel-chrome-steel alloys, Duraloy Co., Scottdale, Pa.
DURATEX—Utility fireproof curtains. Duracote Corp., Ravenna, Ohio
DURAWELD—Welder's goggles. American Optical Co., Southbridge, Mass.
DURITE—Silicon carbide coated abrasive. Behr-Manning Corp., Troy, N. Y.
DURO—Electrode holders. Duro Engineering Co., Hamden, Conn.
DURO-LITE—Lightweight electrode holder. Duro Engineering Co., Hamden, Conn.
DURONZE—Silicon bronze. Bridgeport Brass Co., Bridgeport, Conn.
DUSKOLECTORS—Filter type cyclone and dust collectors. Hammond Machinery Builders, Inc., Kalamazoo, Mich.
DUST-BAN—Safety goggles. Bausch & Lomb Optical Co., Rochester, N. Y.
DUSTCOTE—Electrode. Harnischfeger Corp., Milwaukee, Wis.
DUSTFOE—Respirators, hoods and masks. Mine Safety Appliances Co., Pittsburgh, Pa.
DUSTKOP—Dust collectors, blowers and exhausters. Aget-Detroit Co., Ann Arbor, Mich.
DUSTUBE—Dust collector. Wheelabrator Corp., Mishawaka, Ind.
DUTCH BOY—Solder and tinning compound, fittings, babbitt metals and lead wool. National Lead Co., New York, N. Y.
DUZWELD—Welding and cutting equipment and supplies. New York Welding Supply Co., New York, N. Y.
DYER—Spot welders. Topeka Foundry & Iron Works Co., Inc., Topeka, Kan.
DY-CHEK—Dye penetrant inspection. Turco Products, Inc., Los Angeles, Calif.
DYNA-FLASH—Portable electric drills, grinders sanders. Milwaukee Electric Tool Corp., Milwaukee, Wis.
DYNA-SWITCH—Crane overload switch. W. C. Dillon & Co., Chicago, Ill.
DYNAFLEX—Hose. Mulconroy Co., Philadelphia, Pa.
DYNAMASTER—Pyrometers and strain gauges. Bristol Co., Waterbury, Conn.
DYNAMITE—Hose. Mulconroy Co., Philadelphia, Pa.
DYNAPOWER—Welding cable. Carol Cable Co., Pawtucket, R. I.
DYNO-MITE—Portable electric drills. Millers Falls Co., Greenfield, Mass.

E

EA—Welding cable reel. United Specialty Corp., El Dorado, Ark.
EB—Weld insert. Acros Corp., Philadelphia, Pa.
EC&M—Automatic welding timers. Electric Controller and Mfg. Co., Cleveland, Ohio.
EC&M LINE ARC—Magnetic contractors. Electric Controller and Mfg. Co., Cleveland, Ohio
EC&M NEOTROL—Weld timers for use on air or hydraulically-operated welding machines. Electric Controller & Mfg. Co., Cleveland, Ohio
E. J. WELDER—Horsehide welding gloves. E. J. Streichert, Chicago, Ill.
EL—Electronic tubes. Electronics, Inc., Newark, N. J.
ELC—Low-carbon stainless steels. Armco Steel Corp., Middletown, O.
E-M—High frequency generators. Electric Machinery Mfg. Co., Minneapolis, Minn.
E-Z CUT—Free machining steel plate. Joseph T. Ryerson & Sons, Inc., Chicago, Ill.
E-Z ACT—Clamp. McFerron-Myers Products Co., Cleveland, Ohio.
EASTERN STAYPUT—Hose couplings and fittings. J. N. Fauver Co., Inc., Detroit, Mich.
EASTON—Woven cotton belting. Victor Balata & Textile Belting Co., New York, N. Y.
EASY—Finishing sanders, portable, electric and pneumatic. Detroit Surfacing Machine Co., Detroit, Mich.
EASYARC—Iron-powder electrode. Air Reduction Sales Co., New York, N. Y.
EASYFLEX—Welding cable. Progressive Welder Co., Detroit, Mich.
EASY-FLO—Silver brazing alloy. Handy & Harman, New York, N. Y.
EASY MOUNT—Grinding wheels. Sterling Grinding Wheel Div., The Cleveland Quarries Co., Tiffin, Ohio
EASYWELD—Electrode for a-c arc welding. Universal Welding Corp., Cleveland, Ohio
ECGCO—Coated cover glass for welders' helmets and coated electric light bulbs. Electro Cover Glass Co., Inc., Sharpsburg, Br., Pittsburgh, Pa.
ECLIPSE—Magnetic holder. James Neill & Co., New York, N. Y.
ECONO-SPEED—Blast oven furnace. Eclipse Fuel Eng. Co., Rockford, Ill.
ECONOMIZER—Valve device which shuts off oxygen and acetylene when torch is hung on hooked lever. National Cylinder Gas Co., Chicago, Ill.
ECONOMY—Welding and cutting outfits. Burdett Oxygen Co., Cleveland, Ohio
ECONOMY—Grinders and buffers. The Hisey Wolfe Machine Co., Cincinnati, Ohio
ECONOMY—Wirewheel brush. The Osborn Mfg. Co., Cleveland, Ohio
ECONOMY "C"—Manual hardfacing rods and electrodes. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
EDCO—Copper electrodes. Davies & Son, Inc., Los Angeles, Calif.
EDGEWATER—Firehose. Quaker Rubber Corp., Philadelphia, Pa.
EDUCT-O-MATIC—Abrasive cleaning tool. Clementina, Ltd., San Francisco, Calif.
No. 8 NON-CORROSIVE—Flux. Farrelloy Co., Philadelphia, Pa.
18-8 STAINLESS—Arc welding electrode. Metal & Thermit Corp., New York, N. Y.
EIMAC—Electric tubes; vacuum pumps and high vacuum switches. Eitel-Cullough, Inc., San Bruno, Calif.
EISLER—Spot welders and a-c arc welders. Eisler Engineering Co., Newark, N. J.
EITHEREND—Cable connectors. Albert & J. M. Anderson Mfg. Co., Boston, Mass.
EJECTO—Spot welding tip remover. Miller Electric Mfg. Co., Inc. Appleton, Wis.
EJECTOR TYPE—Electrode holders. S-M-S Corp., Detroit, Mich.
ELCOMETER—Weld tester. Ferro Corp., Cleveland, Ohio
ELECTRA—Steel loading chain. The Cleveland Chain Mfg. Co., Cleveland, Ohio
ELECTRIC—Hose. J. N. Fauver Co., Detroit, Mich.
ELECTRIC-AIR—Wire straightening and cutting machines. The Lewis Machine Co., Cleveland, Ohio.
ELECTRIC LACQUER—Insulating varnish. John C. Dolph Co., Newark N. J.
ELECTR-O-LINE—Electric proportional control relay. Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
ELECTR-O-PULSE—Electric proportional control relay, (pulse type). Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
ELECTRO—Grinding wheels. Electro Refractories and Alloy Corp., Buffalo, N. Y.
ELECTRO-FLUX-STIK—Soldering flux for aluminum and electric apparatus. Lake Chemical Co., Chicago, Ill.
ELECTROAIR—Pneumatic valves. The Bellows Co., Akron, Ohio
ELECTROD—Arc welding electrode. Steel Co. of Canada, Ltd., Hamilton, Ont., Canada.
ELECTROFLO—Solenoid operated valve. Hays Mfg. Co., Erie, Pa.

ELECTROLON—Grinding wheels. Simmonds Abrasive Co., Philadelphia, Pa.
ELECTROLOY—Copper, dies, electrodes and electrode holders, jigs and fixtures, welding wheels. Electroloy Co., Inc., Bridgeport, Conn.
ELECTROMET—Ferro-alloys and non-ferrous alloying metals. Electro Metallurgical Sales Corp., New York, N. Y.
ELECTRO-MITE—Solenoid operated valve. Hays Mfg. Co., Erie, Pa.
ELECTRONIC STEAM—Arc, electronic welder. Casco Products, Inc., Chicago, Ill.
ELECTRONIK—Pyrometers. Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
ELECTROPAK—Electrode package. Arcos Corp., Philadelphia, Pa.
ELECTRO-STAYNEW—Mist collector. Dollinger Corp., Rochester 3, N. Y.
ELECTROTHERMAL—Heating tape. Arthur S. La Pine & Co., Chicago, Ill.
ELECTROWELD—Electric welding tube mill. American Electric Fusion Corporation, Chicago, Ill.
ELECTRONIC TORNADO—Carbon arc electric welder. Lincoln Electric Co., Cleveland, Ohio
ELECTRUNITE—Tubing. Republic Steel Corp., Steel & Tube Div., Cleveland, Ohio
ELECWELD—Electrodes. Steel Sales Corp., Chicago, Ill.
ELEPHANT BRAND—Phosphor bronze casting, bar and sheets, welding rods, wire rope and wire. Phosphor Bronze Corp., Seymour, Conn.
ELGIN—A-c arc welders. Borm Mfg. Co., Elgin, Ill.
ELIED—Acid core, rosin core, and wire solders. Farreloy Co., Philadelphia, Pa.
ELIN—D-c arc welder. American Elin Corp., New York, N. Y.
ELKALOY—A copper alloy for resistance welding applications. P. R. Mallory & Co., Inc., Indianapolis, Ind.
ELKONITE—High conductivity refractory materials used in resistance welding applications. P. R. Mallory & Co., Inc., Indianapolis, Ind., and SMS Corp., Detroit, Mich.
ELLIOT—Flexible shaft grinders. Elliott Manufacturing Co., Binghamton, N. Y.
ELLPRO—Electrode for arc cutting under water. Ellwood Products Co., Ellwood City, Pa.
ELLSBERG—Underwater cutting torch. Craftsweld Equipment Corp., Long Island City, N. Y.
ELMES—Hydraulic presses, electrode extrusion presses and general purposes processes. Charles F. Elmes Engineering Co., Chicago, Ill.
ELMET—Pure or thoriated tungsten welding electrodes. North American Philips Co., Inc., Elmet Div., Lewiston, Maine
EMALFON—Insulated welding gloves. Singer Glove Mfg. Co., Chicago, Ill.
EMCO—Hardfacing metals. Eld Metal Co. Ltd., Los Angeles, Calif.
EMERSON—A-c arc welder. Emerson Electric Mfg. Co., St. Louis, Mo.
ENDURO—Stainless steels. Republic Steel Corp., Republic Bldg., Cleveland, Ohio
ENDURON—Cover plates, lenses. American Industrial Safety Equip Co., Cleveland, Ohio
ENGWALD—Exhaust systems. Engwald Corp., Brooklyn, N. Y.
EQUALOAD—Motor, generator and slip ring brushes. Keystone Carbon Co., Inc., St. Marys, Pa.
ERGOLYTE—A-c arc welders, arc torch for brazing, welding, preheating, etc. Ergolyte Mfg. Co., Philadelphia, Pa.
ERIFON—Flame retardant. E. I. du Pont de Nemours Co., Inc., Wilmington, Del.
ES—Stainless steel sheets. Eastern Stainless Steel Corp., Baltimore, Md.
ES NO. 100 GRIT FINISH—Stainless steel sheets. Eastern Stainless Steel Corp., Baltimore, Md.
ESICO—Soldering irons and tips. Electric Soldering Iron Co., Inc., Deep River, Conn.
ESSANAY—Fire extinguisher. Pyrene Manufacturing Co., Newark N. J.
ESSANAY SODA—ACID RECHARGE—Fire extinguisher recharger. Pyrene Manufacturing Co., Newark N. J.
ESSEE—Weldors' clothing and leather. S. C. Leather Co., Pittsburgh, Pa.
ESTOX—Metal cleaners. Standard Supply Co., New Haven, Conn.
EUREKA—Electrode holders. The Fibre-Metal Products Co., Chester, Pa.
EUREKA—Welding helmet. Welding Engineering Co., Milwaukee, Wis.
EUREKA—Welding rods; electrodes and fluxes. Welding Equipment and Supply Co., Detroit, Mich.
EUREKA—Soldering fluxes. E. I. du Pont de Nemours Del.
EUTECHROM—Hardfacing alloys. Eutectic Welding Alloys Corp., Flushing, N. Y.
EUTECROD—Brazing alloys. Eutectic Welding Alloys Corp., Flushing, N. Y.
EUTEC-SILVER-WELD—Welding and brazing kit. Eutectic Welding Alloys Corp., Flushing, N. Y.
EUTEC-STAINROD—Stainless Steel welding rod, Eutectic Welding Alloys Corp., Flushing, N. Y.
EUTEC-STAINTRODE—Stainless steel welding electrode. Eutectic Welding Alloys Corp., Flushing, N. Y.
EUTEC-TINWELD — Tinning compound. Eutectic Welding Alloys, Inc., Flushing, N. Y.
EUTECTIC—Welding electrodes and rods. Eutectic Welding Alloys Corp., Flushing, N. Y.
EUTECTOR—Fluxes. Eutectic Welding Alloys Corp., Flushing, N. Y.
EUTECTROFILM—Metallic coating applied to oxy-acetylene rods to improve bonding and flowing properties. Eutectic Welding Alloys, Inc., Flushing, N. Y.
EUTECTRODE—Tool and die electrodes. Eutectic Welding Alloys Corp., Flushing, N. Y.
EVEN-FLOW—Manifold control unit. National Cylinder Gas Co., Chicago, Ill.
EVEN TRIM—Spiral wound brushes. Pittsburgh Plate Glass Co., Baltimore, Md.
EVERDUR—Copper, silicon alloy welding rod. American Brass Co., Waterbury, Conn.
EVER-KLEAR—Cover lens. F. R. Faulk, Pittsburgh, Pa.
EVERITE—Pickling medium for iron and steel. Diversey Corp., Metal Industries Dept., Chicago, Ill.
EVERLITE—Torch lighters and flints. Flint Products Co., Brooklyn, N. Y.
EVERSTAY—Alloy for repairing scored cylinders. The Omaha Welding Co., Omaha, Neb.
EVER-STICK—Alloy for repairing scored cylinders. Federated Metals Division, American Smelting and Refining Co., Whiting, Ind.
EXCELOLITE—Welding lens and plates. Sellstrom Mfg. Co., Palatine, Ill.
EXCITRON—Rectifier, Allis-Chalmers Mfg. Co., Milwaukee, Wis.
EXHAUST-O-VENT — Exhaust systems and crush-proof neoprene hose. Engwald Corp., Brooklyn, N. Y.
EXIDE—Batteries. The Electric Storage Battery Co., Philadelphia, Pa.
EXPENDABLE—Salt tablet dispensers. United States Safety Service Co., Kansas City, Mo.
EXPERT—Welding and cutting equipment. Modern Engineering Co., St. Louis, Mo.
EXPERT—Specialized welding machines. Expert Welding Machine Co., Detroit, Mich.
EXTRA—Water hardening tool steel. Henry Disston & Sons, Inc., Philadelphia, Pa.
EXTERNO TANK HEATER—Furnace. Eclipse Fuel Eng. Co., Rockford, Ill.
EXTRA-FLEX—Welding cable. Burdett Oxygen Co., Cleveland, Ohio
EYE-GARD—Welding goggles, lens. Burdett Oxygen Co., Cleveland, Ohio
EYE SAVER—Safety goggles. Watchemoket Optical Co., Inc., Providence, R. I.
EZY-FLEX—Welding cable. National Welding Supply Co., Charlotte, N. C.

F

FB—Cyclone-type (bag-equipped) dust collector. Torit Mfg. Co., St. Paul, Minn.
F-M—Cooling unit for circulating liquid coolant through electrode tips of spot welder. Fairbanks-Morse and Co., Chicago, Ill.
FM 184—Cleaning compound for deburring, descaling, derusting. Oakite Products, Inc., New York, N. Y.
F. S. BEST—Steel. Firth-Sterling Steel & Carbide Corp., McKeesport, Pa.
F. S. EXTRA—Steel. Firth-Sterling Steel & Carbide Corp., McKeesport, Pa.
F-2—Flash, butt resistance welders. Thomson Electric Welder Co., Lynn, Mass.
FW—Ac-dc electrode. Harnischfeger Corp., Milwaukee, Wis.
FABRILOY—Build-up rod. Industrial Overlay Metals, Eaton, Ohio
FACEWELD—Hardfacing electrode. Lincoln Electric Co., Cleveland, Ohio
FACE-FITT—Welding and chipping goggles. Kimball Safety Prod. Co., Cleveland, Ohio
FAIRWAY—Salt tablets and plastic dispensers. Standard Safety Equipment Co., Chicago, Ill.
FALCON—Electric furnaces, portable elec. preheating and stress relieving; heating and control panels. Falcon Equipment Co., New Brighton, Pa.
FAMCO—Arbor presses, foot presses, power presses, foot squaring shears, power squaring shears, drill presses and horizontal metal cut-off saws. Famco Machine Co., Racine, Wis.
FAN-PAC—Exhaust fans. De Bothezat Fans Div., American Mach. & Metals, Inc., East Moline, Ill.
FANSTEEL—Tungsten electrodes and tempered soldeering tips. Fansteel Metallurgical Corp., North Chicago, Ill.
FANWELD—Hardfacing metal. Fansteel Metallurgical Corp., North Chicago, Ill.
FARBER—Fire brick. North American Refractories Co., Cleveland, Ohio
FARCO—Brick, soldering salts, solder. Farreloy Co., Philadelphia, Pa.
FARLENE-OILMETER—Flux. Farrelloy Co., Philadelphia, Pa.
FARM-WELD—Electric arc welder. American Welder Mfg. Co., Chicago, Ill.
WARM-WISE—100 v. arc welder. Calf-teria Sales, Inc., Ft. Wayne, Ind.
FARMFACE—Austentic high chromium iron hard facing rod. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
FARRELLOY—Solder. Farrelloy Co., Philadelphia, Pa.
FARSOL—Soldering paste. Farrelloy Co., Philadelphia, Pa.
FAST-ACTION—Welding clamps. Hallwell Tool Co., Los Angeles, Calif.
FAST-FLO FLUX—Silver brazing flux. American Chemical and Flux Co., Brooklyn, N. Y.
FASTFOME—Fire extinguisher. Pyrene Manufacturing Co., Newark, N. J.
FASTFOME FOAM RECHARGER—Fire extinguisher recharger. Pyrene Manufacturing Co., Newark, N. J.
FASTIN—Paste solder, Farelloy Co., Philadelphia, Pa.
FASTWELL—High speed electrode. Steel Sales Corp., Chicago, Ill.
FAULTLESS—Oxyacetylene hose. The Home Rubber Co., Trenton, N. J.
FAVORITE—Ratchet wrenches. Green, Tweed & Co., North Wales, Pa.
FAXFILM—Inspection magnifiers. Brush Development Co., Cleveland, Ohio
FEATHER SPEC—Goggles. Wilson Products, Inc., Reading, Pa.
FEATHER-SPECS—Safety spectacles with plastic lenses. Allied Safety Equipment, Inc., Houston, Texas.
FEATHERLIGHT—Arc welding electrode holders and face shields. Jackson Products, Warren, Mich.,
FEATHERWEIGHT—Face shields. Dockson Corp., Detroit, Mich.
FEDERAL—Electric spot welding machinery, projection welders, seam welders, portable welders, flash welders, heaters and electric transformers. Federal Machine and Welder Co., Warren, Ohio
FEDERAL NOARK—Controls, magnetic contactors, general purpose relays and switches. Federal Electric Products Co., Newark, N. J.
FEDREX—Lightweight, portable, X-ray machines. Machinery & Welder Corp., Chicago, Ill.
FEND—Protective skin creams. Mine Safety Appliance Co., Pittsburgh, Pa.
FENDALL, FENDGLARE, FENDLITE, FENDSAFE and FENDWELD—Goggles, face shields, and lenses. Fendall Co., Chicago, Ill.
FERREX—Metals cleaner. Turco Products, Inc., Los Angeles, Calif.
FERRO—Cast iron welding flux. Linde Air Prod. Co., New York, N. Y.
FERRO BOND—Stainless clad steel. Worth Steel Co., Claymont, **Del.**
FERROFIT—Nozzles for burners. Eclipse Fuel Engineering Co., Rockford, Ill.
FERROFLAME—Powder for powder flame cutting. National Cylinder Gas Co.
FERROJET—Powder cutting equipment. National Cylinder Gas Co., Chicago, Ill.
FERROWELD—Welding electrode. Lincoln Electric Co., Cleveland, Ohio
FERULOK—Tube fittings. The Parker Appliance Co., Cleveland, Ohio
FEATHERWATE-STREAMLINER — Welders' helmet. Sellstrom Mfg. Co., Chicago, Ill.
FIBRE-METAL—Welding helmets and face shields. The Fibre Metal Products Co., Chester, Pa.
FIBREX—Grinding wheels. Simonds Abrasive Co., Philadelphia, Pa.
FIELD KING—D-c engine wriven welder. A. O. Smith Corp., Welding Products Division, Milwaukee, Wis.
"51" NICKEL—For welding of pure nickel. International Nickel Co., Inc., New York, N. Y.
"52" INCONEL—Electrode for welding Inconel. International Nickel Co., Inc., New York, N. Y.
FILLERARC—Mig (metal inert-gas) welding equipment. General Electric Co., Welding Div., York, Pa.
FILLERWELD—Semiautomatic filler wire feeder for inert-arc welding. General Electric Co., York, Pa.
FILLEX—Arc welding electrode. Metal & Thermit Corp., New York, N. Y.
FILTERWELD—Filter glass, plates and lenses. American Optical Co., Southbridge, Mass.
FIRECRETE—Refractories. Johns-Manville, New York, N. Y.
FIRE-GUN—Torches. Hauck Mfg. Co., Brooklyn, N. Y.
FIRE GUN—Propane torch. Fire Gun Sales Corp., Denver 4, Colo.
FIREOIL—Panel. The Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio
FIREYE—Flame-failure safeguards, for oil and gas burners. Combustion Control Corp., Cambridge, Mass.
FIRTHALOY—Sintered carbide adapted to wire drawing dies, extrusion dies and similar purposes. Firth-Sterling Steel and Carbide Corp., McKeesport, Pa.
FIRTHITE—Form of sintered tungsten carbide for cutting tools, gauges etc. Firth-Sterling Steel and Carbide Corp., McKeesport, Pa.
FIXER-NEUTRALIZER—X-ray film processor. General Electric Corp., Milwaukee, Wis.
FIXTURE FRAMERS—Clamps. Detroit Stamping Co., Detroit, Mich.
FLAMEBLAST—Gas-electric blowtorch. Made by North American Mfg. Co., Cleveland Ohio
FLAMECRAFT—Oxyacetylene welding and cutting outfit. Air Reduction Sales Co., New York, N. Y.
FLAMEMASTER—Shape cutting machine. Indiana Oxygen Co., Indianapolis, Ind.
FLAME-O-GRAPH—Flame cutter. Victor Equipment Co., Welding Equipment Div., San Francisco, Calif.
FLAME-PLATING—Process of tungsten carbide coating. Linde Air Products Co., New York, N. Y.
FLAME-PRUF—Water soluble powder for treating clothes or other fabrics which prevents them from igniting when exposed to sparks. Wolfe-Kote Co., Sheboygan, Wis.
FLAME-RITE—Soldering outfits. National Welders Supply Co., Charlotte, N. C.
FLAME SAW—Cutting machine for structural steel. K-G Equipment Co., Inc., Allentown, Pa.
FLAME SHAPER—Portable flame cutting machines. Shrader-Bowers Co., Mishawaka, Ind.
FLASH—Circle burner. Scientific Research Co., Portland, **Ore.**
FLASH-EX—Flash preventive. Wayne Chemical Products Co., Detroit, Mich.

FLASH OFF No. 99—Welding spatter compound. Acme White Lead & Color Works, Detroit, Mich.
FLATFEET—Fixture feet. Jergens Tool Specialty Co., Cleveland, Ohio
FLATWEAVE—Wire rope sling. John A. Roeblings' Sons Co., Trenton, N. J.
FLEET-ARC—A-c welders. Lincoln Electric Co., Cleveland, Ohio
FLEETWELD—Shielded arc electrodes. The Lincoln Electric Co., Cleveland, Ohio
FLEETWELDER—A-c welders. The Lincoln Electric Co., Cleveland, Ohio
FLEXALOY—Hardfacing electrodes. Industrial Overlay Metals, Eaton, Ohio
FLEXARC—Arc welding apparatus, electrodes and accessories. Westinghouse Electric Corp., Pittsburgh, Pa.
FLEXAUST—Ventilating hose. American Ventilating Hose Co., New York, N. Y.
FLEXCELO—Fire hose. Republic Rubber Div., Lee Rubber and Tire Corp., Youngstown, Ohio
FLEXIBLE ABRASIVE—Flexible abrasive stones. Ideal Industries, Inc., Sycamore, Ill.
FLEX-COVER—Flat plastic plates and lenses. Sellstrom Mfg. Co., Palatine, Ill.
FLEX-SET—Wire rope. Broderick & Bascom Rope Co., St. Louis, Mo.
FLEXSPEED—Buffing and polishing lathe. Divine Brothers Co., Utica, N. Y.
FLEX-TESTER—Sheet metal tester. Steel City Testing Machines, Inc., Detroit, Mich.
FLINT—Gas spark lighters and renewal flints. Flint Products Co., Brooklyn, N. Y.
FLINTWELD—Hardfacing rod. Steel Sales Corp., Chicago, Ill.
FLO-KOTE—Manganese-nickel electrode. Stutz-Sickles Co., Newark, N. J.
FLO-EZ-FLUX—Gas welding aluminum fluxes. Park-Stewart, Worthington, Pa.
FLO-EZ-FLUX No. 5—Gas welding magnesium fluxes. Park-Stewart, Worthington, Pa.
FLO-SCOPE—Flow rate indicator for air and gas lines. Selas Corp. of America, Philadelphia, Pa.
FLOOD—Helmets and other safety equipment. Flood Safety Products Co., Chicago, Ill.
FLO-SET—Speed control valve. Hanna Engrg. Works, Chicago, Ill.
FLOTECTIC—Flux. Eutectic Welding Alloys Co., Flushing, N. Y.
FLOTITE No. 2—Cast iron chrome steel elec. weld flux. Pittsburgh Metals Purifying Co., Pittsburgh, Pa.
FLOTITE No. 3—Brass brazing flux. Pittsburgh Metals Purifying Co., Pittsburgh, Pa.
FLO-WELL No. 1—Flux for gas welding. A. K. Mauk, Pittsburgh, Pa.
FLO-WELL No. 2—Brazing flux. A. K. Mauk, Pittsburgh, Pa.
FLOWLINE—Welding fittings. Welding Fittings Corp., New Castle, Pa.
FLU-OX and FLUID-OX—Liquid oxygen, sphere delivery. Big Three Welding Equipment Co., Houston, Texas
FLUTED ELECTRODES—Resistance welding electrodes. P. R. Mallory & Co., Inc., Indianapolis, Ind.
FLUX INJECTION—Powder cutting. Air Reduction Sales Co., New York, N. Y.
FLUX-FEEDER—Flux dispenser. Air Reduction Sales Co., New York, N. Y.
FLUXINE—Fluxes. Krembs & Co., Chicago, Ill.
FLUX KIT—Soft soldering kit. Alpha Metals, Inc., Jersey City, N. J.
FLUX-RITE—Welding fluxes. National Welding Supply Co., Charlotte, N. C.
FLUXRITE—Fluxed wire solder. National Lead Co., New York, N. Y.
FLUX-STIK—Soldering flux in stick form. Lake Chemical Co., Chicago, Ill.
FLUX-WELL—Flux. Chicago Hardware Foundry Co. North Chicago, Ill.
FLXO 666—Welders gloves. Boss Mfg. Co., Kewanee, Ill.
FOAMITE—Fire extinguishers and air foam. American La France Foamite Corp., Elmira, N. Y.
FOAMITE CRUSADER—Fire extinguishers. American La France-Foamite Corp., Elmira, N. Y.
FOG-BAN—Anti-fog compounds. Bausch & Lomb Optical Co., Rochester, N. Y.
FOILLE—Burn spray and first aid kit. Mine Safety Appliances Co., Pittsburgh, Pa.
FOLEY—Drill presses, band and circular saws, jig-saws, wood lathes, saw grinders, etc. Foley Mfg. Co., Minneapolis, Minn.
FOOTE—Electrode-coating materials. Foote Mineral Co., Philadelphia, Pa.
FORD—Chain hoist. Ford Chain Block Division of American Chain & Cable Co., Inc., York, Pa.
FORM-A-JIG—Non-metallic, pliable, heat resisting compound for holding small parts during joining. Eutectic Welding Alloys Corp., Flushing, N. Y.
FORMINCO—Products used for welding rod and electrode coatings and fluxes. Made by the Foote Mineral Co., Philadelphia, Pa.
FORMULA 953—Metal cleaner. Kelite Products, Inc., Los Angeles, Calif.
FORNEY—A-c and d-c arc welders. Forney Mfg. Co., Fort Collins, Colorado.
"41" NICKEL—For welding of pure nickel. International Nickel Co., Inc., New York, N. Y.
"43" MONEL—For welding heavy sections of Monel for acid pickling service. International Nickel Co., Inc., New York, N. Y.
FORTY-FIVERS—Clamps. Detroit Stamping Co., Detroit, Mich.
"400"—Power hack blades. E. C. Atkins Co., Indianapolis, Ind.
FRANK—Leggings and spats. Safety Clothing & Equip. Co., Cleveland, Ohio
FRANKLIN—A-c welder. Franklin Transformer Manufacturing Co., Minneapolis, Minn.
FREE FLOW—Brazing flux. General Welding & Equipment Co., Boston, Mass.
FREE WHEELING—Ratchet. Blackhawk Mfg. Co., Milwaukee, Wis.
FREE-FLO—Cast iron welding rods. Atlas Foundry Co., Cleveland, Ohio
FREEMACHINE WELD—Cast iron welding electrodes. Westinghouse Electric Corp., E. Pittsburgh, Pa.
FRE-FLO ALLOY No. 7—Cast iron rods for high pressure welding. Atlas Foundry Co., Cleveland, Ohio
FRE-FLO MOLY-NICKEL—Cast iron alloy welding rods. Atlas Foundry Co., Cleveland, Ohio
FRESHAIR—Air supplied weld helmets. Fibre-Metal Products Co., The, Chester, Pa.
FRICTIONLESS—Babbitt metal. Federated Metals Div., American Smelting & Refining Co., New York, N. Y.
FRIGICAP—Helmet liners for head and ears. Jackson Products, Inc., Warren, Mich.
FRIGID-ARC—Electrode coating. Eutectic Welding Alloys Corp., Flushing, N. Y.
FRIGID WELD ROD—Welding rods. Eutectic Welding Alloys Corp., Flushing, N. Y.
FRIX—Special Eutec rod for machinable wear—resistant overlays. Eutectic Welding Alloys Corp., Flushing, N. Y.
FROGALLOY—Hardfacing electrode. McKay Co., Pittsburgh, Pa.
FRONTENAC—A-c arc welders. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada.
FROSTRODE—Coolant coolers. Frostrode Div. of Viking Products, Detroit, Mich.
FULLBACK—Leather welding gloves. E. J. Streichert, Chicago, Ill.
FUL-VUE—Goggles. American Optical Company, Southbridge, Mass.
FUMELESS WELDING ROD No. 240—Fumeless bronze welding rod. Mueller Brass Co., Port Huron, Mich.
FURNAS-CRETE—Castable refractory. Mexico Refractories Co., Mexico, Mo.
FUSERITE—Welding and cutting torches, cutting machines and specialties. Harris Sales Co., Lansdowne, Pa.
FUSE-WELL—Cast iron rods and electrodes. Chicago Hardware Foundry Co., North Chicago, Ill.
FUSIONETTE—Spot and stud welders. Primeweld Corp., Detroit, Mich.
FUSION SOLDER—Solder. Fusion Engineering Co., Cleveland, Ohio
FUZEE—Metals and parts cleaner. Turco Products, Inc., Los Angeles, Calif.
FUZON—Alloy welding electrodes. Chicago Steel and Wire Co., Chicago, Ill.
FYRE-FREEZ—Fire extinguishers. Walter Kidde & Co., Inc., Belleville, N. J.

G

GB—Silver brazing fluxes and alloys. Goldsmith Bros. Smelting & Refining Co., Chicago, Ill.
G ELECTROLON—Grinding wheels. Simonds Abrasive Co., Philadelphia, Pa.
G-STRIPPER—Metal cleaner. Kelite Products, Inc., Los Angeles, Calif.
G-E—Electric arc-welding machines, X-ray machines, electrodes, and accessories. General Electric Co., Schenectady, N. Y.
G.M.C.—Resistance type welder. Guyan Machinery Co., Logan, W. Va.
G.M.C.—Welding torches. The Harris Calorific Co., Cleveland, Ohio
G-R—Arc welders of the transformer type. Glenn-Roberts Co., Indianapolis, Ind.
GS—Safety clothing and equipment. General Scientific Equipment Co., Philadelphia, Pa.
GALV-KOTE—Galvanizing compounds. George H. Ohmer, Dayton, Ohio
GALV-WELD—Galvanizing compound and aluminum, magnesium solder. Galv-Weld, Inc., Dayton, Ohio
GALVALLOY—Galvanizing compound. Metalloy Products Co., Los Angeles, Calif.
GALVICON—Corrosion resistant protective coating. Galvicon Corp., New York, N. Y.
GARALUN—Abrasives. Armour & Co., Alliance, Ohio
GAR-BRO—Cylinder truck. Gar-Bro. Mfg. Co., Los Angeles, Calif.
GARDSMAN—Leather safety clothing and supplies. Racine Glove Co., Rio, Wis.
GARDWELL—Safety clothing and equipment. Safety Clothing & Equipment Co., Cleveland, Ohio
GARIBAY—Mechanical welding cable connector. Yarco Distributors, Los Angeles, Calif.
GARIBAY STINGER—Arc welding electrode holder. Garibay Mfg. Co., Montebello, Calif.
GARIBAY 350—Electrode holder. Garibay Mfg. Co., Montebello, Calif.
GASARC—Inert arc welders and torches. National Cylinder Gas Co., Chicago, Ill.
GAS CARBOX—Bright copper finish welding rod. Central Steel and Wire Co., Chicago, Ill.
GAS FLUX—Liquid brazing flux. Gasflux Mfg. Co., Mansfield, Ohio
GAS-FLUXER—Unit for dispensing liquid flux into the acetylene line of a gas welding outfit. Gasflux Mfg. Co., Mansfield, Ohio
GASAVER—Gas economizer. The Harris Calorific Co., Cleveland, Ohio
GASAVER—Automatic gas shut-off. Weldit, Inc., Detroit, Mich.
GASO KUT-MOR—Flame cutting machine. Gaso Equipment Co., Chicago, Ill.
GAS-O-DOME—Regulator. Victor Equipment Co., San Francisco, Calif.
GAS-O-GEN—Acetylene generator. Eutectic Welding Alloys Corp., Flushing, N. Y.
GASO V-10—Flame-cutting machine. Gaso Equipment Co., Chicago, Ill.
GAS SAVER—Inert-gas welding equipment. Electron-Arc, Inc., Lynn, Mass.
GASTON—Portable gun welder. Karma Mfg. Co., Harvey, Ill.
GASTON BULL-DOG—Portable electric tools. Alcasco Fdry. & Mfg. Co., Inc., Harvey, Ill.
GASWELD—Gas regulators, soldering outfits, flame cuting, soldering and gas welding tips, brazing, preheating, welding and flame cutting torches, welding and cutting apparatus and flame hardening equipment. Liquid Carbonic Corp., Industrial Gas Div., Chicago, Ill.
GEAR-DRIVEN—Welding positioner. Aronson Machine Co., Arcade, N. Y.
GELLID—Welding equipment, cylinders and trucks. Gellid Engineering Corp., Oak Park, Ill.
GEM—Electrode holder for arc welding. Gem Electrode Holder Co., New York, N. Y.
GENCO—Plumbers furnace. General Propane Gas Corp., Mineola, N. Y.
GENCO—Welders' protective clothing of leather, asbestos, duck and canvas. C. D. Genter Co., Chattanooga, Tenn.
GENERAL—Aluminum and copper welding cable. General Cable Corp., New York, N. Y.
GENERAL—Electric arc welder. American Welder Mfg. Co., Chicago, Ill.
GENERAL—Toggle clamps, welding positioner. The General Welding Co., Cleveland, Ohio
GENERAL PURPOSE—Plugs and receptacles. Pyle-National Co., Chicago, Ill.
GENEX—Arc welding electrode. Metal & Thermit Co., New York, N. Y.
GENUINE STILLSON—Pipe wrench. Walworth Co., New York, N. Y.
GES—Electric hand shears. Jefferson Engineering & Mfg. Co., Detroit, Mich.
GES-9—Electric hand shears, 14 gauge. Jefferson Eng. & Mfg. Co., Detroit, Mich.
GES-12—Electric hand shears, 12 gauge. Jefferson Eng. and Mfg. Co., Detroit, Mich.
GEWECO—Welding and cutting apparatus and automatic shape cutting machines. General Welding and Equipment Co., Boston, Mass.
GLAREGARD—Lenses. Dockson Corp., Detroit, Mich.
GLASCOTE—Transparent liquid coating. John C. Dolph Co., Newark, N. J.
GLAZE-ITE—Cover glass. Willson Products, Inc., Reading, Pa.
GLENSITE—Weldors and chippers goggles. Glendale Optical Co., Inc., Valley Stream, N. Y.
GLENWELD—Filter lenses. Glendale Optical Co., Valley Stream, N. Y.
GLOBE DRILL—Steel. Firth-Sterling Steel & Carbide Corp., McKeesport, Pa.
GLO-MELT—Soldering unit. Wassco Electric Products Corp., Joliet, Ill.
GLYPTAL—Synthetic resin. General Electric Co., Schenectady, N. Y.
GOLDEN HEETMASTER—Heat and flame resistant gloves. Singer Glove Mfg. Co., Chicago, Ill.
GOODRICH, B. F.—Welding, fire, steam and sand-blast hose. B. F. Goodrich Co., Akron, Ohio
GOODYEAR—Welding hose. Goodyear Tire & Rubber Co., Akron, Ohio
GORHAM HIGH SPEED WELDING METAL—Tool steel welding rod. Gorham Tool Company, Detroit, Mich.
GORTITE—Sleeves for welding positioner and machinery. A & A Mfg. Co., Milwaukee, Wis.
GOSS—Adaptors, electrode holders, couplings and fittings, manifolds and oxygen tips, welding gas, etc. Goss Gas, Inc., Pittsburgh, Pa.
GRADIATION—Heating equipment. Selas Corp. of America, Philadelphia, Pa.
GRAHAM—Rotary files. Graham Rotary File & Tool Corp., Philadelphia, Pa.
GRAHAM—Stud welding equipment. Graham Mfg. Corp., Royal Oak, Mich.
GRAMPUS—Welders vise. Belmont Abrasives, Boston, Mass.
GRAND CHAMP and GRAND QUIKCET—Clamps. Grand Specialties Co., Chicago, Ill.
GRANNYGRIP—Chain sting. The Boyer-Campbell Co., Detroit, Mich.
GRAYDAC—Mild-steel electrodes. Champion Rivet Company, Cleveland, Ohio
GRAY DEVIL—Mild steel electrodes. Champion Rivet Co., Cleveland, Ohio
GREENLEE—Benders, conduit, pipe and tubing. Greenlee Tool Co., Rockford, Ill.
GREEN-STRIPE—Sandpaper. Clover Mfg. Co., Norwalk, Conn.
GREYCO—Electric drills. Greyhound A.C. Arc Welder Corp., Brooklyn, N. Y.
GREYHOUND—Portable spot welder. Duro-Dyne Corp., New Hyde Park, L. I., N. Y.
GREYHOUND—A-c arc welders, portable, bench and stationary spot welders. Greyhound A-C Arc Welder Corp., Brooklyn, N. Y.
GRIEVE-HENDRY—Electrode storage ovens. Grieve-Hendry Co., Inc., Chicago, Ill.
GRIFFIN—Hack saw blades and band saws. G. W. Griffin Co., Franklin, N. H.

GRINDAWAY—Grinding wheels. Colonial Abrasive Products Co., Conshohocken, Pa.
GRINDHOG—Portable grinders. The Hisey-Wolf Machine Co., Cincinnati, Ohio
GRIND-O-FLEX—Flexible abrasive finishing wheel. Merit Products, Inc., Culver City, Calif.
GRINNELL—Welding fittings and prefabricated piping. Grinnell Co., Inc., Providence, R. I.
GRINNELL-SAUNDERS—Air line valves. Grinnell Co., Inc., Providence, R. I.
GRIPCO—Weld and lock nuts. Grip Nut Co., Chicago, Ill.
GRIP-LOK—Grinding wheels. Safety Grinding Wheel and Machine Co., Springfield, Ohio
GRIP-MASTER—Drill press vise. National Machine Tool Co., Racine, Wis.
GRIP-O-MATIC—Pullers, gear, bearing, etc. Owatonna Tool Co., Owatonna, Minn.
GRIPPO-HANDLE—Hand drill. The United States Electrical Tool Co., Cincinnati, Ohio
GRIPSO—Vise pliers. H. R. Basford Co., San Francisco, Calif.
GRIP-TITE—Brush holder for brush attached to chipping hammer. Atlas Welding Accessories Co., Ferndale, Mich.
GRITCLOTH—Open-mesh coated abrasives. Bay State Abrasive Products Co., Westboro, Mass.
GROUND HOG—Magnetic ground. Magne-Cast Tool Co., Inc., Chicago, Ill.
GROUZABAR—Bar for rebuilding grouzers on crawler equipment. Pyramid Steel Co., Cleveland, Ohio
GUARDENE—Fire extinguisher. Pyrene Manufacturing Co., Newark, N. J.
GUARDENE SODA-ACID RECHARGER—Fire extinguisher recharger. Pyrene Manufacturing Co., Newark, N. J.
GUARDSMAN—Attachment which can be placed upon a single stage oxygen regulator to make it operate in two stages of reduction. K-G Equipment Co., Inc., New York, N. Y.
GUILLOTINE—Portable hydraulic hand, air and electrically operated wire rope, rod, chain and electric cable cutters. Manco Mfg. Co., Bradley, Ill.
GUYAN—Bondwelder. Guyan Machinery Co., Logan, W. Va.
GWECO—Resistance welding transformers. Goodrich Welding Equipment Corp., Reed City, Mich.

H

H—Aluminum flux. Bierman-Everett Foundry Co., Irvington, N. J.
HF—Induction heaters. Scientific Electric, Garfield, N. J.
HF-40—Manual hardfacing rods and electrodes. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
HF-60—Manual hardfacing rods and electrodes. American Manganese Steel Division, American Brake Shoe Co., Chicago Heights, Ill.
H.F.M. 600—Hardfacing manganese electrodes. Industrial Overlay Metals, Inc., Eaton, Ohio
HKP—Wire, bolt, rod, chain and cable cutters. H. K. Porter, Inc., Somerville, Mass.
H & M—Pipe cutting and beveling machine. H & M Pipe Beveling Machine Co., Tulsa, Okla.
HOCO—Oxygen and acetylene gases compressed in cylinders. Houston Oxygen Co., Houston, Texas
HPM—Hydraulic presses including presses for electrode extrusion coating. Hydraulic Press Mfg. Co., Mt. Gilead, Ohio.
H. V. BLUE CHIP—Steel. Firth-Sterling Steel & Carbide Corp., McKeesport, Pa.
H. W. D.—Chromium-molybdenum hot-work die steel. Firth-Sterling Steel & Carbide Co., McKeesport, Pa.
HACKNEY—Compressed gas cylinders and air receivers. Pressed Steel Tank Co., Milwaukee, Wis.
HALLOWELL—Steel work benches, stools and chairs. The Standard Pressed Steel Co., Jenkintown, Pa.
HALO-ARC—Modern Welding Machine & Equip. Co., N. Y., N. Y.
HALO—Face shields. United States Safety Service Co., Kansas City, Mo.
HAMILTON—Bench type drilling machines and welding tables. The Hamilton Tool Co., Hamilton, Ohio.
HAMMETT—A-c arc welders. Hammett Electric Mfg. Co., Kansas City, Mo.
HAMPTON—A-c electric welders, electrode holders, portable electric saws, etc. Hampton Electric Mfg. Co., New Kensington, Pa.
HAN-D-AIR—Positioning air cylinders. The Bellows Co., Akron, Ohio
HANCO—Vises. Wilton Tool Mfg. Co., Chicago, Ill.
HANCOCK—Globe, angle and gate valves. Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
HANDEE—Electric grinders. Chicago Wheel Mfg. Co., Chicago, Ill.
HANDIWINCH—Hoist, hand and power. American Hoist & Derrick Co., St. Paul, Minn.
HANDNIB—Shears, nibblers, rod cutters and punches. National Machine Tool Co., Racine, Wis.
HAND-O-MATIC—Welding electrode. Eutectic Welding Alloys Corp., Flushing, N. Y.
HANDY—Silver solder. Handy & Harman, New York, N. Y.
HANDY—Drill press vise. National Machine Tool Co., Racine, Wis.
HANDY FLUX—Flux for silver alloy brazing. Handy & Harman, New York, N. Y.
HANDY-GIANT—Lightweight portable welder. Cauhorn Mfg. Co., Detroit 4, Mich.
HANNA—Air and hydraulic cylinders and valves. Hanna Engrg. Works, Chicago, Ill.
HANOVER—Weldors gloves and mittens. Hanover Glove Co., Hanover, Pa.
HARCAST—A-c, d-c mild steel electrode for welding cast iron. Harnischfeger Corp., Milwaukee, Wis.
HARDCHROME—A-c, d-c chromium electrodes. Harnischfeger Corp., Milwaukee, Wis.
HARCOTE—Electrodes for hardfacing. Harnischfeger Corp., Milwaukee, Wis.
HARD DEVIL—Hardfacing electrode. The Champion Rivet Co., Cleveland, Ohio
HARD-HEDS—Fluxed carbides. Superweld Corp., North Hollywood, Calif.
HARDALLOY—Hardfacing electrode. McKay Co., Pittsburgh, Pa.
HARD-CRAFT—Electrodes. Allied Weld-Craft, Inc., Indianapolis, Ind.
HARDENTOUCH—Hardfacing electrodes Westinghouse Electric Corp., East Pittsburgh, Pa.
HARD-N-TUFF—Steel hardening compound. Doughly Laboratories, N. Y.
HARD-NITE—Hardfacing metal. Eld Metal Co., Ltd., Los Angeles, Calif.
HARDFACER No. 11 and No. 112—Coated type electrodes for hardfacing. Hobart Bros. Co., Troy, Ohio
HARDWELD—Hardfacing electrode. The Lincoln Electric Co., Cleveland, Ohio
HARGRAVE—"C" clamps, cold chisels and other small hand tools. The Cincinnati Tool Co., Cincinnati, Ohio
HARMONANG A—Coated manganese molybdenum electrode. Harnischfeger Corp., Milwaukee, Wiss.
HARRIS—Welding and cutting equipment, torches, regulators and accessories. Harris Calorific Co., Cleveland, Ohio
HARRISBURG—Oxygen cylinders, flanges. Harrisburg Steel Corp., Harrisburg, Pa.
HARSTAIN—A-c, d-c electrodes for welding stainless steels. Harnischfeger Corp., Milwaukee, Wis.
HARTUNG—Coated tungsten molybdenum electrode. Harnischfeger Corp., Milwaukee, Wis.
HAR-WORTH—Electrode holders, ground clamps and cable connectors. Har-Worth Mfg. Co., Newark, N. J.
HASCROME—Iron-base hardfacing rods. Haynes Stellite Co., Kokomo, Ind.
HASKINS—Flexible shaft equipment. R. G. Harkins Co., Chicago, Ill.
HASTELLOY—Nickel-base hardfacing rods. Haynes Stellite Co., Kokomo, Ind.
HAT 'N' GOGS—Safety hats and goggles. Chicago Eye Shield Co., Chicago, Ill.
HAT 'N' SHIELD—Safety hats and helmets. Chicago Eye Shield Co., Chicago, Ill.
HAUCK—Oil and gas burning torches, furnaces and firepots. Hauck Manufacturing Co., Brooklyn, N. Y.
HAYES—Alloys and precision castings. Haynes Stellite Co., Kokomo, Ind.
HAYES—Torch machines. Hayes Track Appliance Co., Richmond, Ind.
HAYNES—Iron & nickel-base hard facing rods. Haynes Stellite Co., Kokomo, Ind.
HAYNES STELLITE—Cobalt-base hard facing rods. Haynes Stellite Co., Kokomo, Ind.
HAYSTELLITE—Cast tungsten carbide hard facing material. Haynes Stellite Co., Kokomo, Ind.
HAZACORD—Welding cable. Hazard Insulated Wire Works, (Division of the Okonite Co.), Wilkes-Barre, Pa.
HEAD-REST—Goggles. Jackson Products, Warren, Mich.
HEALTHGUARD—Chicago Eye Shield Co., Chicago, Ill.
HEARTHCRETE—Cement refractory. Quigley Co., Inc., New York, N. Y.
HEAT-FOE—Asbestos gloves. Miller Products Co., Inc., New York 7, N. Y.
HEAVY-DUTY—Ground clamps. Wagner Manufacturing Co., Inc., Jackson, Mo.
HELIARC—Tig (tungsten inert-gas) welding apparatus. The Linde Air Products Co., New York, N. Y.
HELI-MASTER—The Osborn Mfg. Co., Cleveland, Ohio
HELISTAIN—Welding flux. Sierra Welding Flux Co., Temple City, Calif.
HELIWELD—Tig (Tungsten inert-gas) welding equipment. Air Reduction Sales Co., New York, N. Y.
HELLER—Chisels, chipping and scaling and machinists hammers, handles, holders and steel. Heller Brothers Co., Newark, N. J.
HELLITE—Refractory cement. Johns-Manville, New York, N. Y.
HELMCO-LACY—Flux pot. Helmco, Inc., Chicago, Ill.
HEMATOX—Cast iron flux. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada
HERC-ALLOY—Hoisting chains. Columbus McKinnon Chain Corp., Tonawanda, N. Y.
HERCO—A-c transformer type arc welders. Hercules Electric & Mfg. Co., Inc., Brooklyn, N. Y.
HERCULES—Solder flux and paste, iron cement, boiler solder. Hercules Chemical Co., Inc., New York, N. Y.
HERCULES—Copper coated low carbon steel welding rod. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada
HERCULES—Gasoline, gas, kerosene and Diesel engines. Hercules Motors Corp., Canton, Ohio.
HERCULITE—Welding helmets. Dockson Corp., Detroit, Mich.
HERCULOY—Silicon bronze welding rods. Revere Copper and Brass, Inc., New York, N. Y.
HERO—Hose. Mulconroy Co., Philadelphia, Pa.
HEVI-DUTY—Furnaces and transformers. Hevi-Duty Electric Co., Milwaukee, Wis.
HEVI-LIFT—Electric hoist. Harnischfeger Corp., Milwaukee, Wis.
HEVIKOAT—Heavily flux coated, shielded arc type steel electrode. The Universal Welding Co., Cleveland, Ohio
HEVY-DUTY—Head stamps. The Acromark Co., Elizabeth, N. J.
HEXACON—Electric soldering and branding irons. Hexacon Electric Co., Roselle Park, N. J.
HEXITE—Steel used in making nugget wrenches. Blackhawk Mfg. Co., Milwaukee, Wis.
HICKORY—File handles. O. P. Link Handle Co. Salem, Ind.
HICYCLE—Grinders and sanders. Chicago Pneumatic Tool Co., New York, N. Y.
HI-AMP—Ground clamps electrode holder. Wagner Mfg. Co., Inc., Jackson, Mo.
HI-BAK—Welders gloves. Boss Mfg. Co., Kewanee, Ill.
HI-CYCLE—High frequency unit. Will-Weld Manufacturing Co., Inc., Omaha, Neb.
HI-DUTY—Soldering outfits. Imperial Brass Manufacturing Co., Chicago, Ill.
HI-GRADE—Soldering flux. Hi-grade Alloy Corp., Chicago, Ill.
HI-LO—A-c welding machines. Hilo Mfg. Co., Detroit, Mich.
HILO-CHROME—Bonding mortar. Mexico Refractories Co., Mexico, Mo.
HI-MO—High speed steel bits. Firth-Sterling Steel & Carbide Corp., McKeesport, Pa.
HI-POWER—Portable electric drills and grinders. Portable Electric Tools, Inc., Chicago, Ill.
HI-SPEED—Oxyacetylene welding and cutting torches. Dockson Corp., Detroit, Mich.
HI-SPEED—Grinding compounds. Clover Manufacturing Co., Norwalk, Conn.
HI-STEEL—Low alloy steel. Inland Steel Co., Chicago, Ill.
HI-TEN—Carbon steel wrenches. Armstrong Bros. Tool Co., Chicago, Ill.
HI-TENSILE—Coated electrodes. Page Steel & Wire Division of American Chain and Cable Co., Inc., Monessen, Pa.
HI-TEST—Non-fuming flux. Air Reduction Sales Company, New York, N. Y.
HI-WAVE—Spot welders of condenser discharge type. Taylor-Winfield Corp., Warren, Ohio
HICARWELD—High carbon steel welding rod. Steel Sales Corp., Chicago, Ill.
HICYCLE—Grinders. Chicago Pneumatic Tool Co., New York, N. Y.
HIGH SPEED—Tinning flux. E. I. du Pont de Nemours & Co., Grasselli Chem. Div., Wilmington, Del.
HIGH VISIBILITY—Protective lens. Lincoln Electric Co., Cleveland, Ohio
HILOSET—Bonding mortar. Mexico Refractories Co., Mexico, Mo.
HISEY—Grinders and buffers. Hisey-Wolf Machine Co., Cincinnati, Ohio
HOBART—A-c and d-c arc welding machines, electrodes and equipment, d-c welding equipment, electric, gas engine driven and diesel engine driven; mobile d-c welder; battery charger; clean-weld compound; metal filler, etc. Hobart Bros. Co., Troy, Ohio
HOBBY—Steel tape rule. Carlson Rules & Measures, Monrovia, Calif.
HOBRONZ—Electrode for carbon arc. Hobart Brothers Co., Troy, Ohio
HOCO—Oxygen, acetylene, nitrogen, and medical gas mixtures. Houston Oxygen Co., Houston, Tex.
HOIST-ALL—Ratchet level all purpose hoist, high lift jack and puller. Coffing Hoist Co., Danville, Ill.
HOKE—Torches, regulators, valves, laboratory and other equipment. Hoke, Inc., Englewood, N. J.
HOKE—JEWEL—Oxy-gas torches. Hoke, Inc., Englewood, N. J.
HOKE-PHOENIX—Regulators or reducing valves for compressed gases. Hoke, Inc., Englewood, N. J.
HOLDEN FLUX—Silver brazing flux. Standard Supply Co., New Haven, Conn.
HOL-TITE—Electrode holder. Hol-Tite Holder Co., West Frankfort, Ill.
HOLCOMB PROTECTION—Welders' safety garments. Holcomb Safety Garments Co., Chicago, Ill.
HOLCROFT—Furnaces. Holcroft & Co., Detroit, Mich.
HOLD-ARK—Carbon electrodes. Speer Carbon Co., St. Marys, Pa.
HOL-GRIP—Electrode Holders, Tweco Products, Inc., Wichita, Kansas
HOLGUN—Portable electric drills. Van Dorn Electric Tool Co., Towson, Md.
HOLGUN—Portable electric drill. The Black & Decker Mfg. Co., Towson, Md.
HOLLANDS—Pipe cutters, wheels, etc. Collmer Bros., South Bend, Ind.
HOLLANDS—Bench, combination pipe and machinist vises and pipe cutters. Hollands Mfg. Co., Erie, Pa.
HOLLOW KINGPIN—Positioner. The Pandjiris Weldment Co., St. Louis, Mo.
HOLLUP—Electrodes. National Cylinder Gas Co., Chicago, Ill.
HOLMES—Submerged-arc flux crusher. Robert Holmes & Bros. Inc., Danville, Ill.
HOLTITE—Granulated bronzing material. The American Brass Co., Waterbury, Conn.
HOMOX—Acetylene and oxygen gases. Home Oxygen Co., Inc., Huntington Park, Cal.
HOOF—Governors: mechanical; velocity. Hoof Products Co., Chicago, Ill.

HOOSIER—Files. E. C. Atkins and Co., Indianapolis, Ind.
HOPANE—A liquefied gas. Hope Natural Gas Co., Clarksburg, W. Va.
HORNET—A-c arc welder. Air Reduction Sales Co., New York, N. Y.
HOSSFELD—Iron-bending equipment. Hossfeld Mfg. Co., Winona, Minn.
HOT SPARK—Torch lighter and flints. Randall Manufacturing Co., North Kansas City, Mo.
HOT SPOT—Spot, seam and projection welder and resistance welding equipment. Acme Electric Welder Co., Los Angeles, Cal.
HOT SPOT—Flint equipped gas lighter. Universal Power Corp., Cleveland, Ohio
HOTMARX—Metal marking crayons. The Amer. Crayon Co., Sandusky, Ohio
HOUGHTO-CLEAN—Metal cleaners and rust removers. E. F. Houghton & Co., Philadelphia, Pa.
HULTGREN—Power furnaces. Ajax Electrothermic Corp., Div., Ajax Metal Co., Philadelphia, Pa.
HUNTINGTON PATTERN—Grinding wheel dressers. Collmer Bros., South Bend, Ind.
HUNTSMAN—Welding helmets, hand and face shields. Kedman Co., Salt Lake City, Utah
HURBENIUM—Lead alloy coating. Hurbenium Co., Napoleon, Ohio
HURRICANE PRESS—Air operated bench press. Studebaker Machine Co., Maywood, Ill.
HURRICLEAN—Steam gun. Oakite Products, Inc., New York, N. Y.
HUSKY BOY—Gas-drive arc welder, air-cooled. Hobart Bros. Co., Troy, Ohio
HY POWA—Wire, bolt, rod, chain, and cable cutters. H. K. Porter, Inc., Somerville, Mass.
HYCARB—High carbon welding electrode. Universal Power Corp., Cleveland, Ohio
HYCLASP—Welding cable disconnect splice. Burndy Engineering Co., Inc., Norwalk, Conn.
HYDENT—Cable connectors. Burndy Engineering Co., Inc., Norwalk, Conn.
HYDRO-CHECK—Hydraulic control. The Bellows Co., Akron, Ohio
HYDRO-CLONE—Dust suppressors. Whiting Corp., Harvey, Ill.
HYDROGARDE—Fire extinguishers. Pyrene Manufacturing Co., Newark, N. J.
HYDRO-SPEED—Multiple point spot welders. The Taylor-Winfield Corp., Warren, Ohio
HYLINK—Cable connectors. Burndy Engineering Co., Inc., Norwalk, Conn.
HYLUG—Cable connectors. Burndy Engineering Co., Inc., Norwalk, Conn.
HY-LO—Low-hydrogen electrodes. The Champion Rivet Co., Cleveland, Ohio
HYMAG—Magnesium silicate; Foote Mineral Co., Philadelphia, Pa.
HY-POWER—Electrically powered, hydraulically actuated equipment. Hannifin Corp., Chicago, Ill.
HYPRESS—Crimping tool. Burndy Engineering Co., Inc., New York, N. Y.
HY-PRESSURE—Welding hose. Goodyear Tire & Rubber Co., Akron, Ohio.
HYTEMP—Protective coatings. Geo. R. Mowat Co., New York, N. Y.
HYTEMPITE—High temperature refractory cements. Quigley Co., Inc., New York, N. Y.
HY-TIN—Paste solder. Farreloy Co., Philadelphia, Pa.
HYTOOL—Crimping tool. Burndy Engineering Co., Inc., New York, N. Y.

I

I-O-C—Oxygen acetylene. Indiana Oxygen Co., Indianapolis, Ind.
I-R-C—Lightweight castable refractory. Mexico Refractories Co., Mexico, Mo.
IDEAL—Various electrical items and tools. Ideal Industries, Inc., Sycamore, Ill.
IDEAL—Face shield and lens. Ideal Face Shield Co., Columbus, Ohio
IDEAL—Welders' handshields. Welding Engineering Corp., Milwaukee, Wis.
IDEALARC—All-purpose a-c/d-c welder. The Lincoln Electric Co., Cleveland, Ohio
IGNITRON—Timing equipment for resistance welding machines. Westinghouse Electric Corp., East Pittsburgh, Pa.
ILG—Centrifugal and motor propeller fans, power roof ventilators, automatic shutters and unit heaters. ILG Electric Ventilating Co., Chicago, Ill.
ILLIUM—Corrosion resistant electrodes and welding rods. Illium Corp., Freeport, Ill.
IMMUNITE—Welding lenses and plates. Harry Buegeleisen, Inc., Brooklyn, N. Y.
IMMUNOL—Metal cleaner and rust preventative. Haas Miller Corp., Philadelphia, Pa.
IMPACTOOL—Electric tool. Ingersoll-Rand Co., New York, N. Y.
IMPACUTTER—Power cutter. Ingersoll-Rand Co., New York, N. Y.
IMPERIAL—Welding gloves. Imperial Glove Mfg. Co., Berlin, Wis.
IMPERIAL—Welding, cutting and soldering equipment. Imperial Brass Manufacturing Co., Chicago, Ill.
IMPERSO TANKHEATER—Tank heater. Eclipse Fuel Engineering Co., Rockford, Ill.
IMPROVED OVAL CAP—Torch lighter. Flint Products Co., Brooklyn, N. Y.
IMPROVED ROUND FILE—Welding torch gas lighters. Safety Gas Lighter Co., Lynn, Mass.
INCANDESCENT INTENSIFIER—Welding and inspection lamps. Benjamin Electric Mfg. Co., Des Plaines, Ill.
INCANDESCENT PROJECTOLITE—Welding and inspection lamps. Benjamin Electric Mfg. Co., Des Plaines, Ill.
IN-CEL-ATE—Insulating cement. Mexico Refractories Co., Mexico, Mo.
INCO—Nickel and nickel-alloy products. International Nickel Co., Inc., New York, N. Y.
INCO-FLUX—Gas welding and brazing flux. International Nickel Co., Inc., New York, N. Y.
INCO-ROD A—Electrode for welding dissimilar alloys. The International Nickel Co., Inc., New York, N. Y.
INCONEL—77-15 nickel-chromium alloy. The International Nickel Co., Inc., New York, N. Y.
INCONEL-CLAD STEEL—Steel plate composed of a layer of solid Inconel. Lukens Steel Co., Coatesville, Pa.
INDEPENDENT — Acetylene cylinders, acetylene charging or compressing plants, oxygen plants; equipment and fittings of all kinds used in the compression of oxygen, acetylene, propane or other gases. Independent Engineering Co., O'Fallon, Ill.
INDESTRUCTO—Neoprene sheathed cables. National Elec. Products Corp., Pittsburgh, Pa.
INDIANA—Oxygen, acetylene. Indiana Oxygen Co., Indianapolis, Ind.
INDUSTRIAL 38—Metal cleaners. Wyandotte Chemical Corp., Wyandotte, Mich.
INDUSTRIAL—Overhead cranes, jibs and gantrys. Industrial Equipment Co., Chicago, Ill.
INDUSTRIAL—Safety clothing without steel reinforcing. Industrial Gloves Co., Danville, Ill.
INDUSTRIALAIR—Compressor. Joy Mfg. Co., Pittsburgh, Pa.
INDUSTRO—Welding glass. Willson Products, Inc., Reading, Pa.
IND-X—Portable radiographic inspection unit. Ind-X Corp., Seattle, Wash.
INGACLAD—Stainless clad steel. Ingersoll Steel & Disc Div., Borg-Warner Corp., Chicago, Ill.
INLAND HI-STEEL—Low alloy, high strength steel. Jos. T. Ryerson & Son, Inc., Chicago, Ill.
INOXCO—Welding and cutting equipment and flame cutting machines. Industrial Oxygen Co., Louisville, Ky.
IN-R-TOOLS—Work holding tools. Layne-Held Corp., Higginsville, Mo.
INSOROD—Self hardening alloy. Resisto-Loy Co., Grand Rapids, Mich.
INSTANT ARC—A-c welder. Marquette Mfg. Co., Inc., Minneapolis, Minn.
INSTO-GAS—Metal melting furnaces; torches and soldering irons. Insto-Gas Corp., Detroit, Mich.
INSULAG—Refractory and refractory insulation. Quigley Co., Inc., New York, N. Y.
INSUL-LOCK—Cable connectors, cable lugs, cable splicers, crimping tools. Anthony, F. M. Co., Piedmont, Calif.
INSUL-LOCK—Cable splice. Victor Equipment Co., San Francisco, Calif.
INSULPIN SYSTEM—Portable stud welder. Graham Mfg. Corp., Royal Oak, Mich.
INSULUG—Cable connectors. Burndy Engrg. Co., Norwalk, Conn.
INSULCRETE—Refractories. Quigley Co., Inc., New York, N. Y.
INSWELL—Coil chain. Columbus McKinnon Chain Corp., Tonawanda, N. Y.
INTENSARC—Carbon arc welding electrodes. National Carbon Div., Union Carbide & Carbon Corp., New York, N. Y.
INTERLOX—Extension slide rule. Master Rule Mfg. Co., Middletown, N. Y.
INTERMITTOR—High speed index table. Ferguson Machine & Tool Co.,
INVARO—High speed steel. Firth-Sterling Steel & Carbide Corp., McKeesport, Pa.
INVINCIBLE—Industrial vacuum cleaners, flux recovery equipment and vacuum producers and blowers. Invincible Vacuum Cleaner Mfg. Co., Dover, Ohio.
IPCO—Safety equipment, welding accessories and first aid supplies. Industrial Products Co., Philadelphia, Pa.
IRIDIUM ISOTRON—Isotron for handling of iridium 192. The Gamma Corp., Mansfield, Mass.
IRONWELD—Powdered flux for welding cast iron. Sight Feed Generator Co., West Alexandria, Ohio
IRPO—Rust proofer or preventive. Wolfe-Kote Co., Inc., Sheboygan, Wis.
ISCO—Walnut caustic potash. Innis, Speiden & Co., New York, N. Y.
ISOROD—Forgeable self-hardening alloy. Resisto-Loy Co., Grand Rapids, Mich.

J

JM—Asbestos, fire bricks, asbestos safety clothing, refractories. Johns-Manville, New York, N. Y.
JM—Sodium silicate. E. I. duPont de Nemours & Co., Inc., Wilmington, Del.
J. S. CHISEL AND PUNCH STEEL—Oil-hardening punch-and-chisel steel. Firth-Sterling Steel and Carbide Co., McKeesport, Pa.
JACKHAMER—Rock drill. Ingersoll-Rand Co., New York, N. Y.
JACKSON—Insulated and semi-insulated electrode holders and a complete line of adjustable eye-shields and hoods. Jackson Products, Detroit, Mich.
JACQUET—Indicator for measuring slow linear welding speeds. Herman H. Sticht Co., Inc., New York, N. Y.
JARVIX BIAX—Flexible shafting, flexible shaft machines and portable grinding machines with flexible shafts. Charles L. Jarvis Co., Middletown, Conn.
JARVIS POWER TOOLS—Flexible shaft equipment and flexible shaft tools and tapping attachments. Charles L. Jarvis Co., Middletown, Conn.
JAY BEE—Fire brick. Mexico Refractories Co., Mexico, Mo.
JEMCO—Flexible shaft machine. Jefferson Engineering & Mfg. Co., Detroit, Mich.
JEMCO "C40"—Hardfacing rods. Armite Laboratories, Los Angeles, Calif.
JESSOP STAINLESS-CLAD—Stainless steel. Jessop Steel Co., Washington, Pa.
JET-CUT—Grinding wheels. Robertson Mfg. Co., Morrisville, Pa.
JET FLUX—Liquid flux system. Allstate Welding Alloys Co., Inc., White Plains, N. Y.
JET-GAS—Propane. Burdett Oxygen Co., Cleveland, Ohio
JET-HARD—8u-90 iron-powder electrode. The Lincoln Electric Co., Cleveland, Ohio
JET-O-MATIC—Automatic light duty oxyacetylene torch. Marquette Mfg. Co., Inc., Minneapolis, Minn.
JETWELD—Iron-powder electrodes. Lincoln Electric Co., Cleveland, Ohio
JEWEL—Pipe clamps. The Jewel Mfg. Co., St. Paul, Minn.
JEWEL—Coated abrasives. Abrasive Products, Inc., South Braintree, Mass.
JEWEL BRAND WELDISK—Aluminum oxide coated abrasive disc. Abrasive Products, Inc., South Braintree, Mass.
JEWELOX—Coated abrasive in rolls, belts, disc and sheet form. Abrasive Products, Inc., South Braintree, Mass.
JIFFY—Brazing outfits. Modern Engineering Co., St. Louis, Mo.
JIFFY—Hand torches. Mahr Mfg. Co., Div. Diamond Iron Works Inc., Minneapolis, Minn.
JIFFY—Metal disintegrator. Jiffy Disintegrators, Inc., Detroit, Mich.
JOHNSON—Metal cutoff bandsaws. Johnson Manufacturing Corp., New York, N. Y.
JOHNSON'S—Soldering fluid, flux and paste. Johnson Mfg. Co., Inc., Mount Vernon, Iowa
JOMAC—Welding gloves. C. Walker Jones Co., Philadelphia, Pa.
JONES—Abrasive belt swing grinder. Jones Engineering Co., Ellwood City, Pa.
JORGENSEN—Welders clamps, steel bar clamps, "C" clamps, etc. Adjustable Clamp Co., Chicago, Ill.
JUBILEE—Oxyacetylene hose. New York Belting & Packing Co., Passaic, N. J.
JUMBO—Machine cutting torch and tips. Harris Calorific Co., Cleveland, Ohio
JUMBO—Torch lighters and flints. Flint Products Co., Brooklyn, N. Y.
JUMBO—Steam hose. The Home Rubber Co., Trenton, N. J.
JUNIOR—A-c arc welders. Mid-States Welding Mfg. Co., Chicago, Ill.
JUNIOR—Portable arc welder. Shober Sales, Inc., Stockton, Calif.
JUNIOR—Soldering gun. Weller Electric Corp., Easton, Pa.
JUNO—Vises. Wilton Tool Mfg. Co., Chicago, Ill.
JUSTRITE—Fire extinguishers. Justrite Mfg. Co., Chicago, Ill.

K

K-G—Welding and cutting apparatus. K-G Equipment Co., Inc., Allentown, Pa.
KSM—Arc welding studs, eelctric arc stud welders, parts and accessories. KSM Prod., Inc., Merchantville, N. J.
K-ARC—Electrode coating materials. Foote Mineral Co., Inc., Philadelphia, Pa.
K BOND—Grinding wheel. Norton Co., Worcester, Mass.
K MONEL—Nickel-copper aluminum heat-treatable alloy. The International Nickel Co., Inc., New York, N. Y.
KO—Resistance welding electrode holders. P. R. Mallory & Co., Inc., Indianapolis, Ind.
K SERIES—Welding and brazing alloys and fluxes. All-State Welding Alloys Co., Inc., White Plains, N. Y.
K TUNGSTEN—Special tungsten for inert gas shielded arc welding electrodes. P. R. Mallory & Co., Inc., Indianapolis, Ind.
KAISER—Aluminum welding cable. Kaiser Aluminum & Chemical Sales, Inc., Chicago, Ill.
KAJON—Air actuated C-clamp. The Burklyn Co., Los Angeles, Calif.
KAM KLAMPS—Pressure clamps for use on jigs and fixtures. Lapeer Mfg. Co., Lapeer, Mich.
KAM-LOCK—Shutoff valve. Eclipse Fuel Engineering Co., Rockford, Ill.
KANDEL—Arc-oxygen electric underwater cutting torch. Craftsweld Equipment Corp., Long Island City, N. Y.
KANOX—Acetylene and oxygen. Kansas Oxyaen Div., Krause Plow Corp., Hutchinson, Kan.
KAPTRODE—Resistance welding cap electrodes. WW Alloys, Inc., Detroit, Mich.
KARRI-GO—Industrial crane. Silent Hoist & Crane Co., Brooklyn, N. Y.
KARSEAL—Cast iron solder. All-State Welding Alloys Co., Inc., White Plains, N. Y.
KARTIN—Tinning compound. All-State Welding Alloys Co., Inc., White Plains, N. Y.

KASIL—Potassium silicate and electrode coating materials. Philadelphia Quartz Co., Philadelphia, Pa.

KEEN-ARC—Copper coated and cored carbon electrodes. Becker Bros. Carbon Co., Cicero, Ill.

KEENWELD—Brazing alloys and fluxes. All-State Welding Alloys Co., Inc., White Plains, N. Y.

KELEKET—X-ray equipment. Kelley-Koett Mfg. Co., Covington, Ky.

KEL-F—Plastic laminate. M. W. Kellogg Co., New York, N. Y.

KEL-RAY—Radiographic (gamma-ray) projector. Metal & Thermit Corp., New York, N. Y.

KELLER—Pneumatic tools. Keller Tool Co., Grand Haven, Mich.

KELLER—Power hack saws. Sales Service Machine Tool Co., St. Paul, Minn.

KELLERFLEX—Flexible shaft machines, burrs, rotary files and equip. Pratt & Whitney (Division Niles-Bement-Pond Co.), W. Hartford, Conn.

KELLEY-KOETT—X-ray equipment, accessories and supplies. Kelley-Koett Mfg. Co., Inc., Covington, Ky.

KENT—Flux recovery unit. The Kent Co., Inc., Rome, N. Y.

KENTRALL—Hardness tester. The Torsion Balance Co., Clifton, N. J.

KERK-ALOY—Hardfacing alloy. Kerk-Aloy Co., Bloomington, Ind.

KEROTEST—Valves, cylinder and piping. Kerotest Manufacturing Co., Pittsburgh, Pa.

KESTER—Solders and fluxes, solder paddles. Kester Solder Co., Chicago, Ill.

KEWANEE—Unions. Walworth Co., New York, N. Y.

KEY-GRAPHITE—Sealing compound. Key Co., E. St. Louis, Mo.

KEYSTONE—Tungsten chisel steel. Henry Disston & Sons, Inc., Philadelphia, Pa.

KEYSTONE—Bench vises. Hollands Mfg. Co., Erie, Pa.

KEYSTONE—Lubricants. Keystone Lubricating Co., Philadelphia, Pa.

KICKLESS—Resistance welding cables. Mackworth G. Rees, Inc., Detroit, Mich.

KIDDE—Fire extinguishers. Walter Kidde & Co., Inc., Detroit, Mich.

KILOTRON—High-frequency induction-heating equipment. Electric Arc Inc., Newark, N. J.

KIMBALL—Weldors' aprons, gloves, goggles, helmets, leather suits, leggings, sleeves, metal arm protectors, sweat pads, lens and cover plates. Kimball Safety Products Co., Cleveland, Ohio.

KIMTINT—Welding lenses. Kimball Safety Prod. Co., Cleveland, Ohio

KINGSPAR—Electrode coating material. Foote Mineral Co., Inc., Philadelphia, Pa.

KINMONT UNIVERSAL POWER UNIT—Welding positioner and power source. Roylyn, Inc., Glendale, Calif.

KIRKSITE A—Die metal alloy. Morris P. Kirk & Son, Inc., Los Angeles, Calif.

KLAMPACTO—Quick acting toggle type "C" clamp. Lapeer Mfg. Co., Lapeer, Mich.

KLEANAIR—Respirators. Safety Equipment Service Co., Cleveland, Ohio

KLEANROD—Soldering fluxes. E. I. du Pont de Nemours & Co., Grasselli Chemicals Dept., Wilmington, Del.

KLEANWELD—Fluxes for aluminum castings, cast iron, brass and bronze welding of malleable iron, brass or bronze welding of cast iron. K-G Equipment Co., Inc., New York, N. Y.

KLEARSITE KOVERGLAS—Non-pitting coverglass for arc welding hoods, and welding goggles. Carter-Lockard Co., Los Angeles, Calif.

KLEM—Cleaner. Klem Chemicals, Inc., Dearborn, Mich.

KLERO—Packing. Greene, Tweed & Co., North Wales, Pa.

KLING—Shears and presses. Kling Bros. Engineering Works, Chicago, Ill.

KNOCK-OUT—A-c arc welders, arc torches. K. O. Lee Co., Aberdeen, S. D.

KNOLES—Trucks and cylinders. Adams Mfg. & Supply Co., Los Angeles, Calif.

KNU-LOK—Toggle type pliers. Lapeer Mfg. Co., Lapeer, Mich.

KNU-SINE—Bar base toggle-clamps. Lapeer Mfg. Co., Lapeer, Mich.

KNU-VISE—Toggle clamps and pliers. Lapeer Manufacturing Co., Lapeer, Mich.

KODAK—Industrial x-ray films. Eastman Kodak Co., Rochester, N. Y.

KOOL MITT—Asbestos and leather mitt. Singer Glove Mfg. Co., Chicago, Ill.

KOOLITE—Air gas torches. National Welding Equip. Co., San Francisco, Cal.

KOOLPAD—Sweat bands. Standard Safety Equipment Co., Chicago, Ill.

KOOLPORE—Grinding wheels. Bay State Abrasive Prod. Co., Westboro, Mass.

KOP-R-ARC—Welding rods. Krembs & Co., Chicago, Ill.

KOPPER KORE—Electric soldering iron. Kwikheat Mfg. Co., Glendale, Calif.

KORKER—Oxyacetylene hose. Quaker Rubber Hose Co., Philadelphia, Pa.

KORN—Leathers. Korn Leather Co., Peabody, Mass.

KORNER-KLAMP—Welding clamp. Thermacote Co., Los Angeles, Calif.

KORR-STUDS—Welding studs. KSM Products, Inc., Merchantville, N. J.

KRAFTGUARD—Goggles. Chicago Eye Shield Co., Chicago, Ill.

KRANEKAR—Mobile swing-boom crane. Silent Hoist & Crane Co., Inc., Brooklyn, N. Y.

KRE-CO—Brazing alloy rings and soldering and welding fluxes. Charles W. Krieg Co., Newark, N. J.

KRESS-McKNEAT—Oil and gas burning appliances, preheaters, forges, torches, and furnaces. H. H. Kress, Philadelphia, Pa.

KROME-KOTE—Rust remover and sealer. Wolfe-Kote Co., Inc., Sheboygan, Wis.

KROMEWELD—Flux for welding stainless steels and stainless iron. Air Reduction Sales Co., New York, N. Y.

KROMOVER—Tinning pencil. All-State Welding Alloys Co., Inc., White Plains, N. Y.

KROMOX—Chrome nickel steel rod for oxyacetylene welding. Central Steel & Wire Co., Chicago, Ill.

KULITE—Electrode holder. American Welding Specialties, Inc., Detroit, Mich.

KUT-KWIK—High speed steel. Henry Disston & Sons, Inc., Philadelphia, Pa.

KUT-MOR—Portable motor driven gas cutting machine. Gaso Equipment Co., Chicago, Ill.

KUTALL—Hack saw blades. Spartan Saw Works, Inc., Springfield, Mass.

KWIKFLUX—Silver brazing fluxes. Special Chemicals Corp., Ossining, N. Y.

KWIK-HEAT—Electric soldering iron. Kwikheat Mfg. Co., Glendale, Calif.

KWIK-HEAT "TYPE 400"—Electric soldering iron. Kwik-heat Mfg. Co., Glendale, Calif.

KWIK-KLAMP—Adjustable clamp. Danly Machine Specialties, Inc., Chicago, Ill.

KYRAM—Refractories. Quigley Co., Inc., New York, N. Y.

L

L NICKEL—Low-carbon form of nickel. International Nickel Co., Inc., New York, N. Y.

L. A. ALUMINUM BRAZING FLUX TYPE I—Aluminum brazing flux. Canadian Liquid Air Co., Ltd., Montreal, Canada

LP—Form mixing low pressure gas and air. Eclipse Fuel Engineering Co., Rockford, Ill.

L-T-B-50—Plastic head rest spectacle. Jackson Products Co., Detroit, Mich.

LWZ—Line arc magnetic contactors. The Electric Controller & Manufacturing Co., Cleveland, Ohio

LACLEDE-CHRISTY—Fire brick and refractories. Laclede-Christy Co., St. Louis, Mo.

LA-CO—Paste solders. Lake Chemical Co., Chicago, Ill.

LADY'S MAN—Steel tape rule. Master Rule Mfrg. Co., Middletown, N. Y.

LAND SURFACE—Portable pyrometer. Fielden Instrument Div., Philadelphia, Pa.

LAPEER—Toggle action clamps and pliers and "C" clamps. Lapeer Mfg. Co., Detroit, Mich.

LARKIN—A-c welders. Resistance spot, butt, seam, flash and projection welders and gun welders, arc torch, welder's protective cloth and accessories. Larkin Welder & Machine Corp., Brooklyn, N. Y.

LAWCO JR.—Portable pipe threader. Lawco, Inc., Hutchinson, Kans.

LAY-RITE—Hard surfacing metal. Eld Metal Co., Ltd., Los Angeles, Calif.

LAY-SET—Performed wire rope. Hazard Wire Rope Div., of Amer. Chain & Cable Co., Inc., Wilkes-Barre, Pa.

LEADER 550—Automatic welder. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.

LEAK-PRUF—Acid Core Solder. Alpha Metals Inc., Jersey City, N. J.

"LEAK-TEC"—American Gas & Chemicals, Inc., N. Y., N. Y.

LECTRO-SHEAR—Electrically operated shear. Black and Decker Mfg. Co., Towson, Md.

LEDLOY—Lead bearing, open hearth steel. Inland Steel Co., Chicago, Ill.

LE-HI—Clamps, couplings, fitting unions, and valves. Hose Accessories Co., Phila., Pa.

LEJAY—D-c arc welders and electric brazing outfits. Lejay Mfg. Co., Minneapolis, Minn.

LENAPE RED MAN—Seamless forged welding necks, sweep type boiler nozzles, elliptical handhole and manhole saddles, rings and fittings, special press-formed members for welded constructions in pressure vessels, machinery and transportation equipment. Lenape Hydraulic Pressing & Forging Co., West Chester, Pa.

LENCO—High temperature cement. Wagner Mfg. Co., Inc., Jackson, Mo.

LEPEL—High-frequency induction heating units. Lepel High Frequency Laboratories, Inc., New York, N. Y.

LEVOLIER—Electric switches. McGill Mfg. Co., Inc., Valparaiso, Ind.

LEWIS—Wire straightening and cutting machines. The Lewis Machine Co., Cleveland, Ohio

LEWIS—Automatic welding equipment. Lewis Welding & Engineering Corp., Bedford, Ohio

LIBERTY—Fibre welding helmet. Welding Engineering Corp., Milwaukee, Wis.

LIBERTY—Coil and machine chain. The Cleveland Chain & Mfg. Co., Cleveland, Ohio

LICHTMAN—Leather for welder's clothing. J. Lichtman & Sons, Newark, N. J.

LIFEGUARD—Safety valve for press application. Ross Operating Valve Co., Detroit, Mich.

LIFELONG—Welding torch bodies and cutting assemblies. Smith Welding Equip. Corp., Minneapolis, Minn.

LIFETIME—Sheet, plate, wire, rod, bar, structural shapes, extrusions, tubing, aluminum products, etc. Reynolds Metals Co., Louisville, Ky.

LIFT-FRONT—Welder's goggles. Burdett Oxygen Co., Cleveland, Ohio

LIFT-O-KRANE—Fork lift truck. Silent Hoist & Crane Co., Brooklyn, N. Y.

LIGHTNING LIFT—Lifting jack. Blackhawk Mfg. Co., Milwaukee, Wis.

LIGHTWELD—Welding electrode. Lincoln Electric Co., Cleveland, Ohio

LIN-DE-SURFACER—Machines for the mechanized oxyacetylene conditioning of steel. The Linde Air Products Co., New York, N. Y.

LINCOLN—Electric arc welding equipment and accessories. The Lincoln Electric Co., Cleveland, Ohio

LINCOLNDUCTOR—Welding cable. Lincoln Electric Co., Cleveland, Ohio

LINCOLNWELD—Submerged arc welder. Lincoln Electric Co., Cleveland, Ohio

LINCONTROL—A foot operated welding control. Lincoln Electric Co., Cleveland, Ohio

LINCWELDER—A-c and d-c farm welders. The Lincoln Steel Co., Coatesville, Pa.

LINDE—Gases, Mig welding equipment, powder and flame spraying equipment, steel conditioning machines, jet-piercing, plate-edge and cold-treatment equip. The Linde Air Products Co., New York, N. Y.

LINDOX—Oxygen. Linde Air Products Co., New York, N. Y.

LINE-ARC—Resistance welder contactors. Electric Controller & Mfg. Co., Cleveland, Ohio

LINK—Welding machines. Link Welder Corp., Detroit, Mich.

LION—American pattern files. Grobet File Co. of America, Inc., New York, N. Y.

LIQUAMETTE—Wet abrasive blasting equipment. Wheelabrator Corp., Mishawaka, Ind.

LIQUID—Acetylene, oxygen, hydrogen, and welding grade carbon dioxide. Liquid Carbonic Corp., Industrial Gas Div., Chicago, Ill.

LIQUID HEAT—Salt bath material. E. F. Houghton & Co., Phila, Pa.

LIQUID-WIRE—Copper paste for furnace brazing. Superweld Corp., North Hollywood, Calif.

LIQUIFLUX—Liquid flux for soldering and brazing. The Sight Feed Generator Co., West Alexandria, Ohio

LIQUIFLUXER—Liquid flux dispenser. The Sight Feed Generator Co., W. Alexandria, Ohio

LIQUI-JECTOR—Liquid removal from air and gas lines. Selas Corp. of America, Philadelphia, Pa.

LITECOTE—Mild steel electrode. Harnischfeger Corp., Milwaukee, Wis.

LITEWATE—Goggles. Sellstrom Mfg. Co., Chicago, Ill.

LITE-WEIGHT—Propane cylinders. Harrisburg Steel Corp., Harrisburg, Pa.

LITHABOND—Electrode coating materials. Foote Mineral Co., Inc., Philadelphia, Pa.

LITTLE BERTHA—Preheating torch. L. B. White Co., Onalaska, Wis.

LITTLE BLACKSMITH—Metalworking machines. J. F. Kidder Mfg. Co., Inc., Burlington, Vt.

LITTLE DAVID—Arc welding electrode holder. Lacey-Webber Co., Kalamazoo, Mich.

LITTLE GEORGE—Universal ram-type welder. Cecil C. Peck Co., Cleveland, Ohio

LITTLE GIANT—Pneumatic chipping hammer. The Dallett Co., Philadelphia, Pa.

LITTLE GIANT—Die stock sets. Greenfield Tap & Die Corp., Greenfield, Mass.

LITTLE GIANT—Electric arc welder. Precision Welder Mfg. Co., Chicago, Ill.

LITTLE JOE—Weldor's seat and tool tray. Clinton Prod. Co., Clinton, Mich.

LITTLE PAL—Acetylene generator. Modern Engineering Co., St. Louis, Mo.

LITTLE WIZARD—Differential chain hoist. David Round & Son, Cleveland, Ohio

LIVE-LINE—Ground clamp. Railway & Industrial Engineering Co., Greensbury, Pa.

LLOYD'S—Soldering fluid and flux. Johnson Mfg. Co., Mount Vernon, Iowa

LOADING DOCK SHIELD—Dock shield. Frommelt Industries, Dubuque, Iowa

LOAD KING—Spur-geared and electric chain hoists and wire rope electric hoist. The Yale & Towne Mfg. Co., Philadelphia, Pa.

LOAD LIFTER—Electric hoists and cranes. Manning, Maxwell & Moore, Inc., Muskegon, Mich.

LOCKLITE—Welding goggles. Carter-Lockard Co., Los Angeles, Calif.

LOCK-ON—Socket to handle lock. Blackhawk Mfg. Co., Milwaukee, Wis.

LOCKWEAVE—Coil chain. The Cleveland Chain & Mfg. Co., Cleveland, Ohio

LOCKWELD—Welding electrodes. Larkin Welder & Machine Corp., Brooklyn, N. Y.

LO-CRO—Electrodes for chromium steel. Crucible Steel Co. of America, New York, N. Y.

LO-FLO—Silver solders, Goldsmith Bros. Smelting and Refining Co., Chicago, Ill.

LO-MELT COPPER—Phos-copper alloy. Canadian Liquid Air Co., Ltd., Montreal, Que., Canada.

LO-MAINTENANCE—Electric motors and motor control. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

LONGBOY—50 ft. rule. Master Rule Mfg. Co., Middletown, N. Y.

LONG-LIFE—Plastic cover lens. Sellstrom Mfg. Co., Palatine, Ill.

LONG TANGENT—Pipe welding fittings. Midwest Piping & Supply Co., Inc., St. Louis, Mo.

LOOKS—Goggles. Mine Safety Appliances Co., Pittsburgh, Pa.

LORVIS—Automatic clamp wrench. Blackford Mfg. Co., Inc., Hartford City, Ind.

LOW TEMPERATURE No. 1100—Silver brazing fluxes. The American Platinum Works, Newark, N. J.
LUBRO-CONTROL—Filter-lubricator-regulator. Norgren Co., C. A., Denver, Colo.
LUBRI-AIR—Pneumatic lubricators, filters and regulators. The Bellows Co., Akron, Ohio
LUG-SET—Cable lug attachment equipment and cable splicers. Tweco Products, Inc., Wichita, Kans.
LUKENS—Clad steel. Lukens Steel Co., Coatesville, Pa.
LUKENWELD—Fabrication jacketed steel driver rolls. Lukens Steel Co., Coatesville, Pa.
LUMINARC—Flux coated, aluminum welding electrode. Universal Welding Corp., Cleveland, Ohio
LUXIFLUX—Nonoxidizing corrective flux. Special Chemicals Co., New York, N. Y.
LYON—Welding benches and tables. Lyon Metal Products, Inc., Aurora, Ill.
LYSTON—Soldering flux. Farrelloy Co., Philadelphia, Pa.

M

M-1—Acetylene compressing units. Sight Feed Generator Co., West Alexandria, Ohio
M-22, 26—Fire brick. Mexico Refractories Co., Mexico, Mo.
M-38—Cutting torch. K-G Equipment Co., Inc., Allentown, Pa.
M-B—Airline filters and lubricators, air pressure regulators and portable pneumatic grinders. M-B Products, Detroit, Mich.
MF—Magnetic flux and semiautomatic arc welder. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
MG—X-ray inspection unit. North American Philips Co., Mt. Vernon, N. Y.
MGC—Battery chargers generating equip., aircraft energizers, etc. Hobart Bros. Co., Troy, Ohio
MMM—Coated abrasive, adhesives, masking tape, etc. Minnesota Mining and Mfg. Co., St. Paul, Minn.
MO-FOG—Non-fogging compound. Carhoff Co., Cleveland, Ohio
MSA—Welding helmets, protective hats, coated covered glass airline respirators, goggles, first aid kits, fire blankets, welders' leather clothing, welders' ear protectors, gas detectors and indicators and metal fume respirators. Mine Safety Appliances Co., Pittsburgh, Pa.
MSA-LAMB—Venturi type air-venting apparatus. Mine Safety Appliances Co., Pittsburgh, Pa.
M & T—Welding machines and welding accessories. Metal & Thermit Corp., New York, N. Y.
MTV—Adjustable gas welding tip. L. B. White Co., La Crosse, Wis.
M/W—Welding and cutting equipment, welding rods, electrodes, accessories and supplies. Machinery and Welder Corp., Chicago, Ill.
MW-50—Insulating cement. The Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio
MX—Depressed center wheels and disc. Carborundum Co., Niagara Falls, N. Y.
MACALLOY—Brazing and hard surfacing alloys and for casting repairs. McCauley Alloy Sales Co., Chicago, Ill.
MACHLETT—Electronic tubes and tubes for induction-brazing equipment. Machlett Laboratories, Inc., Springdale, Conn.
MACK-FLEX—Flexible grinding wheels. Macklin Company, Jackson, Mich.
MACKLIN—Abrasive grinding wheels. Macklin Co., Jackson, Mich.
MACLEOD—Fans and burners, etc. The Macleod Co., Cincinnati, Ohio
MACO—Abrasion and corrosion resistant alloy castings. McCauley Alloy Co., Steger, Ill.
MAGBOND—Colloidal gelatinous binder and lubricant. Foote Mineral Co., Philadelphia, Pa.
MAGIC—Positioners. Standard Portable Cord Co., Mayville, N. Y.
MAGIC WAND—Portable a-c arc welder. Patent Specialties, Inc., Miami, Fla.
MAGNA FLO—Flux for gas welding of magnesium. Park Stewart, Worthington, Pa.
MAGNAFLUX—Magnetic particle inspection equipment. Magnaflux Corp., Chicago, Ill.
MAGNAGLO—Fluorescent magnetic particle inspection equipment. Magnaflux Corp., Chicago, Ill.
MAGNAGROUND—Magnetic ground clamp. Dings Magnetic Separator Co., Milwaukee, Wis.
MAGNA-LENS—Lenses for weldors' helmets. The Magna Industrial Lens Co., Holdenville, Okla.
MAGNALOY — Hardfacing and work-hardening alloys for gas and arc. Superweld Corp., North Hollywood, Calif.
MAGNA-LYTE—Portable welding gun. Progressive Welder Sales Co., Detroit, Mich.
MAGNAPASS—Passivator and cleaner for stainless steels. Best Effect Chemical Co., Hackensack, N. J.
MAGNA-TONE NM — Manganese steel rebuilding alloy. Resisto-Loy Co., Grand Rapids, Mich.
MAGNECOTE—Hardfacing flux. Stoody Co., Whittier, Calif.
MAGNETRODE — Magnetic ground. Magnetrode Corp., Kansas City, Mo.
MAGNOLIA—Babbitt Metals. Magnolia Metal Co., Elizabeth, N. J.
MAGNOLIA—Welding and cutting equipment, accessories, supplies, etc. Air Reduction Sales Co., New York, N. Y.
MAHR—Oil burning preheating torches, oil gas and electric industrial furnaces and equipment. Mahr Mfg. Co., Minneapolis, Minn.
MAINLINE—Welding electrode holder service kit. Moorewood Electric & Mfg. Co., Milwaukee, Wis.
MAINTAIN-A-CONTOUR — Dresser for aluminum welding electrodes. S-M-S Corp., Detroit, Mich.
MAJOR—Rubber covered welding cable. National Cable Corp., Milwaukee, Wis.
MAKEPEACE—Brazing alloys and rings, silver brazing fluxes and alloys. D. E. Makepeace Co., Attleboro, Mass.
MALL—Flexible shaft equipment and portable power tools. Mall Tool Co., Chicago, Ill.
MALL DRILLS—Portable electric drills. Mall Tool Co., Chicago, Ill.
MALL FLEX—Flexible shaft machine. Mall Tool Co., Chicago, Ill.
MALL POLISHER—Portable electric polishers. Mall Tool Co., Chicago, Ill.
MALLSAWS—Portable electric saws. Mall Tool Co., Chicago, Ill.
MALLORY 3, 22, 53B, 73, 100—Copper alloys used in resistance welding applications. P. R. Mallory & Co., Inc., Indianapolis, Ind.
MALLORY 100M & 100W—High conductivity refractory materials used in resistance welding. P. R. Mallory & Co., Inc., Indianapolis, Ind.
MALTESE—Welding glasses. Semon Bache & Co., New York, N. Y.
MALTESE CROSS—Hose. Hewitt-Robins, Inc., Stamford, Conn.
MANCO—Bolt rod and wire cutters. Manco Mfg. Co., Bradley, Ill.
MANG-ARC—Nickel manganese electrodes. Alloy Rods Co., York, Pa.
MANGALOY—Multi-pass hardfacing rods. Industrial Overlay Metals, Inc., Eaton, Ohio
MANGANAL—Manganese nickel steel electrodes, wedge bars, applicator bars, plates. Stulz-Sickles Co., Newark, N. J.
MANGANARC—Manganese electrodes and welding rods. Universal Welding Corp., Cleveland, Ohio
MANGANEND—Electrodes for welding high carbon, low alloy high tensile and free machining steels. Arcos Corp., Philadelphia, Pa.
MANGANICK—Cold-drawn and heat treated electrode. Hobart Brothers Co., Troy, Ohio
MANGANOX—Manganese combined with a nickel content and a high percentage of carbon steel rod for arc welding. Central Steel & Wire Co., Chicago, Ill.
MANGANWELD—Hardfacing electrodes. The Lincoln Electric Co., Cleveland, Ohio
MANGA-TONE NM—Alloyed rod. Resisto-Loy Co., Grand Rapids, Mich.
MANGO-PLATE—Alloy steel plate for severe wear and inspect problems. Pyramid Steel Co., Cleveland, Ohio
MANG-TRODE—Manganese-bronze electrode. Ampco Metal, Inc., Milwaukee 46, Wis.
MANHATTAN—Abrasive wheels, hose. The Manhattan Rubber Mfg. Div., Raybestos, Manhattan, Inc., Passaic, N. J.
MANKOTE—Flux coated high manganese rod. Central Steel & Wire Co., Chicago, Ill.
MANSIL—Non deforming oil hardening tool steel. Henry Disston & Sons, Inc., Philadelphia, Pa.
MANSON—Friction tape. The Okonite Co., Passaic, N. J.
MAN-TEN (USS)—Steel. United States Steel Corp., Pittsburgh, Pa.
MARCO—Electrodes and welding wire. Morgan Aluminum Welding Rod Co., Cleveland, Ohio
MARION—Panel type electrical indicating instruments. Marion Electrical Instrument Co., Manchester, N. H.
MARISON—Compressed gas cylinders. The Marison Co., South Elgin, Ill.
MARKAL PAINT STICKS—Industrial paint markers in stick form. Markal Co., Chicago, Ill.
MARQ-ROD—Powdered- iron electrode. Marquette Mfg. Co., Inc., Minneapolis, Minn.
MARQUETTE—Portable spot welders, cable connectors, ground clamps, electrodes, helmets and lenses, silver-soldering kits. Marquette Manufacturing Co., Inc., Minneapolis, Minn.
MARSH—Gauges. James P. Marsh Corp., Skokie, Ill.
MARSTWELD—Swedish Marten soft steel welding wire. Swedish Iron and Steel Corp., New York, N. Y.
MAR-TEMP—Heat treating salts and quenching oils. E. F. Houghton & Co., Philadelphia, Pa.
MARTIN—Automatic welding machines, portable gun welders, spot projection type welding machines, rocker arm welder, and presstype welders, welding transformers and welding cable. Martin Electric Co., Detroit, Mich.
MARVEL—Portable blowers, exhaust blowers, forge blowers, and ventilating fans. Electric Blower Co., Boston, Mass.
MARVEL—Brazing fluxes. Air Reduction Sales Co., New York, N. Y.
MARVEL—Cutters, bolts and rod, wire, hack saw machines, band saws, hack saws and machinist's vises. Armstrong-Blum Mfg. Co., Chicago, Ill.
MARVEL—Sanding discs. Bates Products, Inc., Chicago, Ill.
MASONEILAN—Air pressure regulators and filters. Mason-Neilan Regulator Co., Boston, Mass.
MASTAIR—Valve. Hanna Engineering Works, Chicago, Ill.
MASTER—Electrode holders. Martin Wells, Inc., Los Angeles, Calif.
MASTER—Wire wheel brushes. The Osborn Manufacturing Co., Cleveland, Ohio
MASTER MECHANIC KIT—Welding and cutting outfits. Burdett Oxygen Co., Cleveland, Ohio
MASTER POWER—Portable pneumatic tools. Master Pneumatic Tool Co., Inc., Cleveland, Ohio
MASTER WELDER—Welding gloves. Hanover Glove Co., Hanover, Pa.
MATRIX—Elecetrode for alloy and cast steels. Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
MAURATH — Flux-coated alloy-steel electrodes. Maurath, Inc., Cleveland, Ohio
MAXAW—Portable electric saws. Cummins-Chicago Corp., Chicago, Ill.
MAYARI R—Low alloy high strength steel. Bethlehem Steel Co., Bethlehem, Pa.
MAYHEW—Mechanics hand tools. Mayhew Steel Products, Inc., Shelburne Falls, Mass.
MAZLO — Welding rods. American Magnesium Corp., Cleveland, Ohio
McCABE—Pneumatic flanging machines. McCabe Mfg. Co., Lawrence, Mass.
McCANN—Stress relieving furnaces. Young Brothers Co., Cleveland, Ohio
McCLARY—Electrode holders. McClary & Buyers Equipment Co., Oakland, Calif.
MAC DONALD — Hardfacing electrodes. Shober Sales, Inc., Stockton, Calif.
McDONALD "BURTWELD"—Lenses. B. F. McDonald Co., Los Angeles, Calif.
McGILL—Portable lamp guards. McGill Mfg. Co., Inc., Valparaiso, Ind.
McHALE—Spot and seam Heliarc welding jigs. McHale Mfg. Co., Los Angeles, Calif.
McKAY—Shielded arc welding electrodes. The McKay Co., Pittsburgh, Pa.
McKAY—Valves for high pressure gas cylinders. Linde Air Products Co., New York, N. Y.
McKEE ECLIPSE—Furnaces, blast burners, tips and nozzles and igniters. Eclipse Fuel Engrg. Co., Rockford, Ill.
MEASURRENCH—Torque indicating wrench. J. H. Williams & Co., Buffalo, N. Y.
MEC-CON—Welding cable connector. Tweco Products, Inc., Wichita, Kansas
MECHANICAL CONNECTORS—Cable connectors. National Electric Products Co., Pittsburgh, Pa.
MECHANICAL DRAFTSMAN—Pipe-contouring machine. Steffan Engineering, Salem, Ohio
MECHANICS ROLLS—Aluminum oxide cloth rolls. Clover Manufacturing Co., Norwalk, Conn.
MECHANICLAMPT—Insert type tool holder. Firth-Sterling Steel & Carbide Corp., Pittsburgh, Pa.
MECHANI-CUTS—Power hack saws. Peerless machine Co., Racine, Wis.
MECHANIGRIPT—Insert type tool holder. Firth-Sterling Steel & Carbide Corp., Pittsburgh, Pa.
MECO—Welding and cutting apparatus and supplies, accessories, preheating torches, acetylene generators, electric welding accessories, etc. Modern Engineering Co., St. Louis, Mo.
MECH MASTER—"C" Clamps and machine vises. Mechanics Engineering Co., Jackson, Mich.
MEEHANITE—Sorbo-pearlitic iron. Meehanite Metal Corp., New Rochelle, N. Y.
MELTERAMA—Tar kettle burner. Weldit, Inc., Detroit, Mich.
MELTOMATIC—Tinning compounds. Wayne Chemical Products Co., Detroit, Mich.
MERCURY—Twist drills. Cogsdil Twist Drill Co., Rockford, Ill.
MERCURY—Electric soldering irons. Vulcan Electric Co., Danvers, Mass.
MERIT METAL—Babbitt metal. Federated Metals Div., American Smelting & Refining Co., New York, N. Y.
MERIX ANTI-FOG — Anti-fog compounds. Merix Chhemical Co., Chicago, Ill.
MERIX ANTI-STATIC 79—Polishing compound. Merix Chemical Co., Chicago, Ill.
MERIX COMPOUND "MEG"—Lens cleaner. Merix Chemical Co., Chicago, Ill.
MERIX DRY-CRISP—Rust preventive. Merix Chemical Co., Chicago, Ill.
MESTA-THOMPSON-GIBB—Flash welder. Mesta Machine Co., Pittsburgh, Pa.
MESURFLO—Flow volume control. Hays Mfg. Co., Erie, Pa.
METAL BOND—Soldering and welding fluxes, hard and aluminum solder. Metal Bond Mfg. Co., St. Louis, Mo.
METAL FILLER—For coating welds on cast iron. Hobart Bros. Co., Troy, Ohio
METALITE—Aluminum oxide coated abrasive. Behr-Manning Corp., Troy, N. Y.
METALITE—Hardfacing welding rod. Adams Alloy Co., Wakita, Okla.
METALITE PLOW POINT BAR—Hardfacing alloy. Adams Alloy Co., Wakita, Okla.
METALKLAD—Arc welding lens. American Agile Corp., Cleveland, Ohio
METALLIZER—Gun for spraying surfaces with metal. Metallizing Co. of America, Inc., Chicago, Ill.
METAL MARK—Metal marking crayons. The American Crayon Co., Sandusky, Ohio
METAL MASTER—Welder. Clinton Machine Co., Clinton, Mich.
METAL POWDERS—Hoeganaes Sponge Iron Corp., Riverton, N. J.
METALMASTER—Welding, cutting and metal-treating apparatus. Linde Air Products Co., New York, N. Y.
METALMASTER—Electric drills, saws and grinders. The Bradford Machine Tool Co., Cincinnati, Ohio
METALSPRAY—Metal spraying gun, also metal spraying equipment. Metalspray Co., Inc., Los Angeles, Calif.

METCO—Metallizing guns and equipment. Metallizing Engineering Co., Long Island City, N. Y.
METEOR — Electric hoist. Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
METHASPEC — Spectacle type plastic goggle. Watchemoket Optical Co., Providence, R. I.
MET-L-CHEK—Dye-penetrant inspection. The Met-L-Chek Co., Los Angeles, Calif.
METRO—Welding helmets, hand shields, goggles. Metro Manufacturing Co., Long Island, City, N. Y.
METRON—Spot welders. Metron Instrument Co., Denver, Colo.
METROWELD—Filter-lens for goggles, helmets and handshields. Metro Mfg. Co., Long Island City, N. Y.
METSO METAL CLEANERS — Philadelphia Quartz Co., Philadelphia, Pa.
METWELD—Welding and cutting torches, accessories, supplies, acetylene generators, and arc welders. Welding Metals Mfg. Co., E. Detroit, Mich.
MEX-R-CO LO-SET—Bonding mortar. Mexico Refractories Co., Mexico, Mo.
MEX-R-CO HY-SET—Bonding mortar. Mexico Refractories Co., Mexico, Mo.
MEZURALL—Chrome-clad tape rules. The Lufkin Rule Co., Saginaw, Mich.
MICALITE—Micalite eyeshield. Harry Buegeleisen, Inc., Brooklyn, N. Y.
MICHEL—Weld-timer. The Central Sales Corp., Chicago, Ill.
MICRO-FILM—Brazing and soldering alloys. Fusion Engineering Co., Cleveland, Ohio
MICRO-FOG — Lubricator Norgren Co., C. A., Denver, Colo.
MICROMETRIC — Speed control valves. Hannifin Corp., Chicago, Ill.
MICROPOISE—Balancing machines. Commerce Pattern Foundry & Machinery Co., Detroit, Mich.
MICRO-SPOOLER—Wire winder. Boyd & Sons Mfg. Co., Philadelphia, Pa.
MICROSTEEL — Mig carbon steel welding wire. Weldrod Co., Meadowbrook (Philadelphia area) Pa.
MICRO-WELD—Spot, butt and flash welders. Micro Products Co., Chicago, Ill.
MIDGET—Spot and butt welders. Universal Welder Corp., Cleveland, Ohio
MIDGET KING—Roller chain electric hoist. The Yale & Towne Mfg. Co., Philadelphia, Pa.
MIDGET TRIPLOC—Plugs and receptacles. Pyle-National Co., Chicago, Ill.
MIDGET UNIVERSAL — Welding torches. Modern Engineering Co., Inc., St. Louis, Mo.
MID-STATES—AC arc welders, carbon arc torches and high frequency arc stabilizers. Mid-States Welder Mfg. Co., Chicago, Ill.
MIDWEST—Fabricated piping, and pipe welding fittings. Midwest Piping and Supply Co., St. Louis, Mo.
MIGHTY-MIDGET—Portable acetylene generators. John R. R. Miles, Inc., Minneapolis, Minn.
MIKALOID—Plastic goggles. Burdett Oxygen Co., Cleveland, Ohio
MILBURN—Oxyacetylene welding and cutting equipment and accessories. Milburn, Alex., Inc., Baltimore, Md.
MILES—Portable welding and cutting torches, regulators, acetylene generators. John R. R. Miles, Inc., Minneapolis, Minn.
MILFORD—Hack saw blades, metal cutting band saw blades. Henry G. Thompson & Co., New Haven, Conn.
MILLER—A-c and Tig a-c- transformer welders, SR selenium rectifier type d-c welders, a-c combination welding and gasoline driven generators, portable spot welders and submerged arc a-c transformer welders. Miller Electric Mfg. Co., Appleton, Wis.
MILLER—Air and hydraulic cylinders, accumulators and boosters. Miller Fluid Power Co., Melrose Park, Ill.
MILLER-PEERLESS—Fire extinguishers. Miller-Peerless Mfg. Co., Chicago, Ill.
MILLER REACTANCE ARC—A-c electric arc welders. Miller Electric Mfg. Co., Inc., Appleton, Wis.
MILLERS FALLS—Hand tools and portable electric tools. Miller Falls Co., Greenfield, Mass.
MILWAUKEE — Portable electric drills, sanders, grinders and hammers. Milwaukee Electric Tool Corp., Milwaukee, Wis.
MINERALIGHT—Black light unit for inspection of flaws, etc. Ultra-Violet Products, Inc., South Pasadena, Calif.
MINIT KOTE—Phosphating cleaner. Klem Chemicals, Inc., Dearborn, Mich.
MINUTE MAN—Fire extinguisher. Pyrene Manufacturing Co., Newark, N. J.
MINUTE MAN—Welding positioner. The du Mont Corp., Greenfield, Mass.
MIRACLE PASTE — Hardfacing paste. Mir-O-Col Alloy Co., Los Angeles, Calif.
MIR-O-COL—Hardfacing welding rods and electrodes and automatic hardfacing wire. Mir-O-Col Alloy Co., Los Angeles, Calif.
MISCO—Oxygen, acetylene and generators. Mitchell Supply Co., Minneapolis, Minn.
MISCO HELPER—A-c electric welders. Mitchell Supply Co., Minneapolis, Minn.
MISCO METAL—Sheets, plates, bars, welding rod, castings. Michigan Steel Casting Co., Detroit, Mich.
MISENER—Hole saws. Misener Manufacturing Co., Inc., Syracuse, N. Y.
MISSING LINK—High frequency arc stabilizer. Mid-States Welder Mfg. Co., Chicago, Ill.
MISTKOP—Mist collector. Aget Mfg. Co., Adrian, Mich.
MIXEND—Electrodes for welding cast iron. Arcos Corp., Philadelphia, Pa.
MODEL—Hose. Mulconroy Co., Philadelphia, Pa.
MODEL G—Pneumatic scaling hammers. Borm Manufacturing Co., Elgin, Ill.
MODEL K—Portable motor driven cutting machine. Harris Calorific Co., Cleveland, Ohio
MODEL T-11—Twin carbon torch. Twentieth Century Manufacturing Co., Minneapolis, Minn.
MODEL W-I—Electric brazing torch. Borm Manufacturing Co., Elgin, Ill.
MODIC L—Cable connectors. Wagner Manufacturing Co., Inc., Jackson, Mo.
MODU WAVE—Welder. Sciaky Bros., Inc., Chicago, Ill.
MOGUL—High speed steel. Jessop Steel Co., Washington, Pa.
MOGUL—Metal spraying equipment and metallizing wire. Metallizing Co. of America, Inc., Chicago, Ill.
MOLD-EASE PCR—Die lubricant. Merix Chemical Co., Chicago, Ill.
MOLEX—Coated arc welding electrode. Metal & Thermit Corp., New York, N. Y.
MOLY-C-ALLOY — Alloy steel electrode. Anthony Carlin Co., Cleveland, Ohio
MOLY-IRON — Iron-molybdenum alloy. Weatherly Foundry and Manufacturing Company, Weatherly, Pa.
MOLYMANG — Manganese steel welding electrodes. Westinghouse Electric Corp., Pittsburgh, Pa.
MOLY-MANG — Hardfacing electrode. Mir-O-Col Alloy Co., Inc., Los Angeles, Calif.
MOLY-NICKEL CAST IRON—Cast iron rod. Steel Sales Corp., Chicago, Ill.
MOLY-RODS—MOLY H—Alloy cast iron rods and for hard surfacing rods. Chicago Hardware Foundry Co., No. Chicago, Ill.
MO-MANG.—Welding rods and electrodes. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
MONARCH—Chains. Bridgeport Chain & Mfg. Co., The, Bridgeport, Conn.
MONARCH—Hose. Hewitt-Robins, Inc., Stamford, Conn.
MONARCH—Helmets and face shields, helmet and coverglass and lens. Fibre-Metal Products Co., Chester, Pa.
MONARCH—Welding lens. Welding Engineering Corp., Milwaukee, Wis.
MONARCH—Cutting torch. Harris Calorific Co., Cleveland, Ohio
MONARCH 72-B—Band saw machines. De Walt, Inc., Lancaster, Pa.
MONEL—Nickel copper corrosion resisting alloy. The International Nickel Co., Inc., New York, N. Y.
MONEL-CLAD STEEL—Bi-metal plate composed of a layer of solid Monel bonded to a heavier backing plate of steel. Lukens Steel Co., Coatesville, Pa.
MONELITE—Goggles. Dockson Corp., Detroit, Mich.
MONEND—Electrodes for welding Monel. Arcos Corp., Philadelphia, Pa.
MONEY-MAKER—Welding and cutting equipment. Modern Engineering Co., St. Louis, Mo.
MONITOR—Portable oxyacetylene cutting machine. The Linde Air Products Co., New York, N. Y.
MONITOR—Wire wheel brushes. The Osborn Mfg. Co., Cleveland, Ohio
MONITOR—Steel tape rule. Master Rule Mfg. Co., Middletown, N. Y.
MONO FIBRIK—Fire brick. Mexico Refractories Co., Mexico, Mo.
MONO-BILT—Rotary wire wheel brush. The Milwaukee Brush Mfg. Co., Milwaukee, Wis.
MONOFRAX—Refractories. The Carborundum Co., Niagara Falls, N. Y.
MONO GOGGLE—Goggle. Willson Products, Inc., Reading, Pa.
MONOGRAPH — Oxyacetylene shape cutting machine. Air Reduction Sales Co., New York, N. Y.
MONOLINE—Fire brick plastic. Quigley Co., Inc., New York, N. Y.
MONOWELD No. I—Low-nitrogen steel electrode. All-State Welding Alloys Co., White Plains, N. Y.
MOORE—Trolleys. Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
MO-REX—Fire brick. Mexico Refractories Co., Mexico, Mo.
MORAN'S—Belt couplings. Greene, Tweed & Co., New Wales, Pa.
MOREY—Fluxes, welding rods and electrodes. Morey Flux & Chemical Co., Wilmington, Del.
MORLIFT—Cranes and hoists. Morris Wheeler & Co., Inc., Philadelphia, Pa.
MORSE—Small cutting tools. Morse Twist Drill & Machine Co., New Bedford, Mass.
MORWELD—Welding rods, electrodes, welding accessories, etc. Morris Wheeler & Co., Inc., Philadelphia, Pa.
MOSLO—Equipment used in the manufacture of arc welding electrodes. Moslo Machinery Co., Celevand, Ohio
MOTO SAW—Portable electric jig saw. Dremel Manufacturing Co., Racine, Wis.
MOTO TOOL—Portable electric hand tool. Dremel Manufacturing Co., Racine, Wis.
MOTT—Weld-on plow points. Mott Products Co., Jackson, Mich.
MOULDOUGH—Backing up material. Metal Bond Mfg. Co., St. Louis, Mo.
MUEHLMATT—Drilling machines. The Hamilton Tool Co., Hamilton, Ohio
MULLFRAX—Refractories. The Carborundum Co., Niagara Falls, N. Y.
MULSINE—Metals and parts cleaner. Turco Products, Inc., Los Angeles, Calif.
MULSIREX—Metals and parts cleaner. Turco Products, Inc., Los Angeles, Calif.
MULTI-AMP—Transformers. Multi-Amp Corp., Newark, N. J.
MULTI-FLAME—Torch head. The Linde Air Products Co., New York, N. Y.
MULTI-FLEX—Carbon motor and generator brushes. Speer Carbon Co., St. Marys, Pa.
MULTI-HYDROMATIC—Spot; projection; butt; flash; gun; seam; multiple spot welders; jigs and fixtures. Multi-Hydromatic Welding & Manufacturing Co., East Detroit, Mich.
MULTIMAC—Automatic universal rebuilder. Automatic Welding Co., Elm Grove, Wis.
MULTI-MAX—Punch and shear combined. Parker Mfg. Co., Santa Monica, Calif.
MULTI-PIC—Weld cleaning hammer and brushes. Bernard Welding Equipment Co., Chicago, Ill.
MULTIMET—Cast or wrought heat-resistant alloy. Haynes Stellite Co., Kokomo, Ind.
MULTI-SPEED—Multiple resistance welder. The Taylor-Winfield Corp., Warren, Ohio
MULTI-STAGE—Gas pressure regulators. The Harris Calorific Co., Cleveland, Ohio.
MULTI-WELD—Circuit control panels. Westinghouse Electric Corp., Pittsburgh, Pa.
MULTIPLE UNIT—Heating elements. Hevi-Duty Electric Co., Milwaukee, Wis.
MUREX—Arc welding electrodes. Metal and Thermit Corp., New York, N. Y.
MURINE—Eye drops. The Murine Co., Inc., Chicago, Ill.

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N-A-X—High tensile, low alloy steel. Great Lakes Steel Corp. Div., National Steel Corp., Detroit, Mich.
N.B.O.—Steam and sand blast hose. The Home Rubber Co., Trenton, N. J.
NCG—Welding and cutting equipment and compressed gas. National Cylinder Gas Co., Chicago, Ill.
NFA—Goggles. American Optical Co., Southbridge, Mass.
NMS—Tip cleaners. New Mexico Steel Co., Albuquerque, N. M.
N BOROLON—Grinding wheels. Simonds Abrasive Co., Philadelphia, Pa.
NALCO—Aluminum flux and soldering flux. National Lead Co., New York, N. Y.
NAGELDINGER—Regulators, valves, torches. John Nageldinger & Sons, Inc., Bronx, N. Y.
NAPOLITAN—Flux for welding sheet aluminum. Air Reduction Sales Co., New York, N. Y.
NARCO—Fire brick and refractory cement. North American Refractories Co., Cleveland, Ohio
NASO—Goggles. American Optical Co., Southbridge, Mass.
NATIONAL—Cutting, soldering & welding tips. National Torch Tip Co., Pittsburgh, Pa.
NATIONAL—Electronic tubes. National Electronics, Inc., Geneva, Ill.
NATIONAL—Electric spot, seam, flash, butt and projection welding machines. National Electric Welding Machines Co., Bay City, Mich.
NATIONAL—Motor generator brushes, carbon blocks and paste, carbon electrodes and refractories. National Carbon Div., Union Carbide and Carbon Corp., New York, N. Y.
NATIONAL—Calcium carbide and lights and lanterns. National Carbide Company, Div. of Air Reduction Co., Inc., New York, N. Y.
NATIONAL—Weld timer. National Time & Signal Corp., Detroit, Mich.
NATIONAL—Cylinders and steel pipe. National Tube Co., Div. of U. S. Steel Corp., Pittsburgh, Pa.
NATIONAL—Gas welding and flame-cutting torches, regulators including medical fittings, adapters, and accessories. National Welding Equipment Co., San Francisco, Calif.
NATIONAL-TIMER—Welding timer. National Time & Signal Corp., Detroit, Mich.
NAVY—Screw gear hoist. David Round & Son, Cleveland, Ohio
NAWSUCO—Leather weldor's clothing. National Welders Supply Co., Charlotte, N. C.
NEAT-N-NIFTY—Self soldering tape. W. B. Franklin Co., San Francisco, Calif.
NEECO-2-TWENTY—Double-disc grinder. New Era Engineering Co.,
NELSON—Arc stud welder. Nelson Stud Welding Div., Morton Gregory Corp., Lorain, Ohio
NELWELD—Stud welding equipment and flux-filled studs. Nelson Stud Welding Div., Gregory Industries, Inc., Lorain, Ohio
NELWELDER—Stud welding gun and power and battery units. Nelson Stud Welding Div., Gergory Industries, Inc., Lorain, Ohio
NEFCO—Weld filler, plastic iron, cast iron weld and brazing flux and aluminum flux. Northeast Metals Co., Philadelphia, Pa.
NEOLINE—Neoprene liquid lining compound. Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
NEOPHAN—Welding lens. Fish-Schurman Corp., New York, N. Y.
NEOTROL—Electric controls, weld-timers. Electric Controller & Mfg. Co., Cleveland, Ohio

NEOTROL-COMPENSATING—Weld timer. The Electric Controller & Manufacturing Co., Cleveland, Ohio

NEW DEAL—Arc welding hand shield. Welding Engineering Co., Milwaukee, Wis.

NEW EASY—Cable and chain cutters. H. K. Porter, Inc., Somerville, Mass.

NEW ENGLAND—Acetylene, argon, hydrogen, oxygen, adapters, manifolds and flame hardening equipment. New England Gas Products, Inc., Boston, Mass.

NEW KATHODE—Mild steel, general purpose electrode. Lincoln Electric Co., Cleveland, Ohio

NEW PROCESS—Hose. Mulconroy Co., Philadelphia, Pa.

NEW WAY—Torch lighter. Matchless Utilities Co., New York, N. Y.

NEWTON—Wooden mallets. Cortland Sales & Products, Inc., Cortland, Ohio

NI-AN-CO—Welding flux. Sierra Welding Flux Co., Temple City, Calif.

NI-CASTWELD—Nickel, cast iron, welding rod. Steel Sales Corp., Chicago, Ill.

NIAGARA—Automatic electronic welding machines. Niagara Machine & Tool Works, Buffalo, N. Y.

NIBBLER—Metal cutting tool. Fenway Machine Co., Philadelphia 3, Pa.

NIBCO—Welding fittings. Northern Indiana Brass Co., Elkhart, Ind.

NICASTOX—Nickel cast iron welding rod. Central Steel and Wire Co., Chicago, Ill.

NICHOLSON—Files. Nicholson File Co., Providence, R. I.

NICHROME—Nickel-chromium alloy welding rod. Driver-Harris Co., Harrison, N. J.

NICKALLOY—Nickel electrode for welding cast iron. McKay Co., Pittsburgh, Pa.

NICKEL—Nickel forms such as sheet, plate, strip, tubing, rod or wire. The International Nickel Co., New York, N. Y.

NICKEL—Alloy steel. The Babcock & Wilcox Tube Co., Beaver Falls, Pa.

NICKEL-ARC—Electrodes for cast iron welding. Alloy Rods Co., York, Pa.

NICKEL-CLAD—Bi-metal plate composed of a layer of solid nickel bonded to a heavier backing plate of steel. Lukens Steel Co., Coatsville, Pa.

NICKELCAST—For welding cast iron, machinable, approx. 100 nickel. D-c or A-c. Hobart Bros. Co., Troy, Ohio

NICKELCHROMEWELD—Shielded arc electrode. The Lincoln Electric Co., Cleveland, Ohio

NICKELEND—Electrodes for welding nickel. Arcos Corp., Philadelphia, Pa.

NICKELMANG—Welding electrode for welding manganese steels. Westinghouse Electric Corp., E. Pittsburgh, Pa.

NICKELOID METALS—Nickel plated steel. American Nickeloid Co., Peru, Ill.

NICKEL STEEL—Arc welding electrode. Metal & Thermit Corp., New York, N. Y.

NICKEND—Electrodes for welding high carbon, low alloy high tensile and free machining steel. Arcos Corp., Philadelphia, Pa.

NICKOX—Nickel steel rod. Central Steel & Wire Co., Chicago, Ill.

NICLOY—Tubing steels. The Babcock & Wilcox Tube Co., Beaver Falls, Pa.

NICO—Electrode for machine weld on cast iron. American Arc Welders, Inc., Roseau, Minn.

NICROBRAZ—Stainless steel high temperature brazing alloy. Wall Colmonoy Co., Detroit, Mich.

NICROMA—Oil hardening tool steel. Henry Disston & Sons, Inc., Philadelphia, Pa.

NICUEND—Electrodes for welding cupro-nickel. Arcos Corp., Philadelphia, Pa.

NIKROMOX—Stainless steel flux. Canadian Liquid Air Co., Ltd., Montreal, Canada.

NILES I—Fire clay brick. The Niles Fire Brick Co., Niles, Ohio

NILES UTILITY—Silica cement. The Niles Fire Brick Co., Niles, Ohio

9000—Carbon arc torch. Mid-States Welder Mfg. Co., Chicago, Ill.

98M2—Cutting tools. Haynes Stellite Co., Kokomo, Ind.

NI-MANG—Manual hardfacing rods and electrodes. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.

NI-REST—Cast iron welding rod. Chicago Hardware Foundry Co., North Chicago, Ill.

NI-ROD—Electrode for cast iron welding. International Nickel Co., Inc., New York, N. Y.

NIROSTA—Chrome-nickel stainless steels. Firth-Sterling Steel Co., McKeesport, Pa.

NITECTIC—Nickel electrode. Eutectic Welding Alloys Corp., Flushing, N. Y.

NIWELD—Cast iron welding rod. Crucible Steel Co. of America, New York, N. Y.

NO DUST—Pedestal grinder with dust collector. Hammond Machinery Builders, Inc., Kalamazoo, Mich.

NO-BLOW—Blast tips. Eclipse Fuel Engineering Co., Rockford, Ill.

NO-FOG—Liquid to prevent fogging, steaming and frosting of goggles and other glass surfaces. Also lens cleaning stations. Carhoff Co., Cleveland, Ohio

NOGAS—Metal pickling agent. E. I. duPont de Nemours & Co., Inc., Wilmington, Del.

NO-SPAT—Spatter preventives. Midland Paint and Varnish Co., Cleveland, Ohio

NON-FLASH—Welding and cutting torches. Torchweld Equipment Division, National Cylinder Gas Co., Chicago, Ill.

NON-KINK—Welding hose. Boston Woven Hose & Rubber Co., Cambridge, Mass.

NON-PIT—Plastic coated glass lenses for helmets, shields and goggles. Eastern Equipment Co., Willow Grove, Pa.

NONOX SWEDO—Low carbon welding rods. Central Steel and Wire Co., Chicago, Ill.

NOPAK—Cylinders and valves. Galland-Henning Mfg. Co., Milwaukee, Wis.

NONPARELL—Non-performed wire rope. Hazard Wire Rope Div. of American Chain and Cable Co., Inc., Wilkes-Barre, Pa.

NORBIDE—Sand blast nozzles. Norton Co., Worcester, Mass.

NORDSTROM—Plug valves. Merco Nordstrom Valve Co., Pittsburgh, Pa.

NORELCO—Contact welding electrode. North American Phillips Co., Inc., Lewiston, Maine.

NORGEN—Hose coupling and fittings, hose, unions, tubing. J. N. Fauver Co., Inc., Detroit, Mich.

NORGREN—Regulating and reducing valves, relief valves, needle valves and cocks, hose couplings and fittings and other pneumatic products. C. A. Norgren Co., Denver, Colo.

NORRIS-THERMADOR—Acetylene cylinders. Norris-Thermador Corp., Los Angeles, Calif.

NORTON—Abrasives used in grinding wheels for grinding and finishing welds, etc. Norton Co., Worcester, Mass.

NORTON—Jacks. Duff Norton Mfg. Co., Pittsburgh, Pa.

NORWELD—Copper coated wire or welding rod. Steel Sales Corp., Chicago, Ill.

NORWELD SPECIAL—Copper coated wire. Steel Sales Corp., Chicago, Ill.

NOT-A-SEAM—Welding gloves. Hanover Gloves Co., Hanover, Pa.

NO-TANGLE NOTCH COILS—Brazing rings. Lucas-Milhaupt Eng. Co., Cudahy, Wis.

NOVIWELD—Filter glass plates and lenses. American Optical Co., Southbridge, Mass.

NOVIWELD DIDYMIUM—Filter glass plates and lenses. American Optical Co., Southbridge, Mass.

NOX-RUST—Rust preventive wrapping for metals and metal products. Nox-Rust Chemical Corp., Chicago, Ill.

NO. 6—Stainless steel flux. Farreloy Co., Philadelphia, Pa.

NO. 15 CHROME NICKEL—Stainless steel electrode. Metal & Thermit Corp., New York, N. Y.

NO. 16 GH—Stainless steel welding flux. Victor Equipment Co., San Francisco, Calif.

NO. 22—Cast iron electrodes. Chicago Hardware Foundry Co., North Chicago, Ill.

NO. 42—Solvent cleaner. Metal cleaners. Wayne Chemical Products Co., Detroit, Mich.

NO. 302—Aluminum solder flux. Flux-All Chemical Prod., New York, N. Y.

NO. 459—Martensitic hard facing rod. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.

NO. 907—Soldering flux and paste, tinning compounds. Flux-All Chemical Products, New York, N. Y.

NO. 1027—Soldering fluid. Flux-All Chemical Products, New York, N. Y.

NU-ARC—A-c welding equipment. Electric Arc Inc., Newark, N. J.

NUBON—Grinding and buffing wheels, shaping stones and mounted wheels and points. Universal Wheel & Abrasive Corp., Chicago, Ill.

NUCUT—American and Swiss pattern files, hand and machine. Heller Brothers Co., Newark, N. J.

NU-AERO—Penetrating oil. Pressure Products Co., West Chester, Pa.

NUGGET—7/16" Drive socket wrench. Blackhawk Mfg. Co., Milwaukee, Wis.

NUGGIES—1/4" Drive socket wrench. Blackhawk Mfg. Co., Milwaukee, Wis.

NU-MOL—Power hack blades. E. C. Atkins & Co., Indianapolis, Ind.

NUSTEEL—For removal of heat tints in welding. NuSteel Co., Chicago, Ill.

NU-TIP—Reconditioned resistance welding electrode. P. R. Mallory & Co., Inc., Indianapolis, Ind.

NU-TWIST—Die adaptor for resistance welder. P. R. Mallory & Co., Inc., Indianapolis, Ind.

NU-WRINKLE—Cap type resistance welding electrode. P. R. Mallory & Co., Inc., Indianapolis, Ind.

NYDRA-CUT—Power hack saws. Peerless Machine Co., Racine, Wis.

NYROGEN—Powder cutting gas. National Cylinder Gas Co., Chicago, Ill.

NYE-UNIVERSAL—Pipe cutters, wheels, etc. Collmer Bros., South Bend, Ind.

NYWSCO—Welding and cutting equipment and supplies. New York Welding Supply Co., New York, N. Y.

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O-B—Rail bonds, electric arc welding machines, electrodes, electrode holders, helmets, face shields and accessories. Ohio Brass Co., Mansfield, Ohio

OK—Wire, bolt, rod, chain and cable cutters. H. K. Porter, Inc., Somerville, Mass.

O.M.W.—Shape cutting machine. Ohmstede Machine Works, Beaumont, Texas

OTC—Tools. Owatonna Tool Co., Owatonna, Minn.

OXCO—Oxygen and acetylene gases compressed in cylinders. Oklahoma Oxygen Co., Oklahoma City, Okla.

O-Z—Solderless lugs and connectors, heavy duty power connectors, corrosion resistant bolts, grounding fittings and welding terminal panels. O-Z Electrical Mfg. Co., Brooklyn, N. Y.

OAKITE—Spatter preventives and metal-cleaning compounds. Oakite Products, Inc., New York, N. Y.

OBALLOY—Signal bonds. Ohio Brass Co., Mansfield, Ohio

OBERG—American pattern hand and machine files and milled and curved tooth. Sandvik Saw & Tool Corp., New York, N. Y.

OCCO—Soldering flux. Ohio Carbon Co., Cleveland, Ohio

OCTOPUS—Welding fume exhauster. Chelsea Fan & Blower Co., Inc., Plainfield, N. J.

OCTOPUS JR.—Portable exhauster and blower. Chelsea Fan and Blower Co., Inc., Irvington, N. J.

OHIO—Bolts, nuts, brackets and kindered fastening devices. The Ohio Nut & Bolt Co., Bereea, Ohio

OHIO—Motor and generator brushes. Ohio Carbon Co., Cleveland, Ohio

OHIO M—Composition and wire wound resistors. Ohio Carbon Co., Cleveland, Ohio

OHIO QUALITY—Seamless and electric welded steel tubing. The Ohio Seamless Tube Co., Shelby, Ohio

OHMITE—Resistance coils, rheostats, switches and similar equipment. Ohmite Mfg. Co., Chicago, Ill.

OIC—Valves. The Ohio Injector Co., Wadsworth, Ohio

OKOCORD—Rubber-sheathed portable cable for electrical welding equipment. The Okonite Co., Passaic, N. J.

OKONITE—Rubber splicing tape. The Okonite Co., Passaic, N. J.

OLD FORGE—Chisels, pneumatic and hand; punches; hand tools and tool handles. Quality Tools Corp., New Wilmington, Pa.

OLD HICKORY—Welder's protective clothing. Industrial Gloves Co., Danville, Ill.

OLD SMOOTHIE—File holders. Remont Mfg. Co., Lombard, Ill.

OLYMPIC BRONZE—Silicon bronze. Chase Brass & Copper Co., Waterbury, Conn.

OMICRON—Steel tape beam compasses for layout work. The Omicron Co., Glendale, Calif.

1-4-U—Salt tablet dispenser. Mine Safety Appliances Co., Pittsburgh, Pa.

ONE LINE—Welding hose. Eastern Equipment Co., Willow Grove, Pa.

ON GUARD—Protected regulators for all compressed gases. K-G Equipment Co., Inc. Allentown, Pa.

"130-X" MONEL—Electrode for welding monel. International Nickel Co., Inc., New York, N. Y.

"131" NICKEL ELECTRODE—General purpose electrode for metal arc welding of nickel and low carbon nickel. International Nickel Co., Inc., N. Y., N. Y.

"132" INCONEL ELECTRODE—A general purpose electrode for metal arc welding of inconel (nickel-chromium alloy), jointing inconel to steel or stainless steel. International Nickel Co., Inc., N. Y., N. Y.

"134" K MONEL—Electrode for welding "K" monel. International Nickel Co., Inc., New York, N. Y.

"140" MONEL—Electrode for welding monel to steel. International Nickel Co., Inc., New York, N. Y.

OPTILITE—Resin lens material. U. S. Safety Service Co., Kansas City, Mo.

OPTIMUS—Pre-cleaner and deoxidizer. Optimus Detergents Co., Matawan, N. J.

ORANGE-STRIPE—Garnet papers and cloths. Clover Manufacturing Co., Norwalk, Conn.

OREGON—Fire hose. The Home Rubber Co., Trenton, N. J.

ORTHO-WELD—Bausch & Lomb Optical Co., Rochester, N. Y.

OSAGE—Hardfacing rods. Osage Metal Co., Oklahoma City, Okla.

OSBORN—Industrial brushes suitable for weld cleaning operations. Osborn Mfg. Co., Cleveland, Ohio

OSTICO—Seamless and electric welded steel tube. The Ohio Seamless Tube Co., Shelby, Ohio

OVAL CAP—Torch lighter and flints. Flint Products Co., Brooklyn, N. Y.

OVERLY—Pneumatic tools for grinding, brushing, sanding, buffing, etc. Charles F. Overly Co., Cleveland, Ohio

OVERSPEC—Safety and welding goggles. Harry Buegeleisen, Inc., Brooklyn, N. Y.

OVER TANG—Surfacing file holder. Remont Mfg. Co., Lombard, Ill.

OWEN—Induction type arc welder. Owen Electric Co., Fayetteville, N. C.

OXALUMA—Grinding wheels and abrasive products. Cortland Grinding Wheels Corp., Chester, Mass.

OXO—Oxygen, acetylene, propane and other gas regulators, protective lens and welding goggles, and inert-gas controls. Oxo Welding Equipment Co., New Lenox, Ill.

OXWELD—Welding, cutting and metal-treating apparatus, welding rods and supplies. The Linde Air Products Company, New York, N. Y.

OXYARC—Holder for arc oxygen cutting rod. Arcos Corp., Philadelphia, Pa.

OXYCUTTEND—Arc-oxygen cutting electrodes. Arcos Corp., Philadelphia, Pa.

OXYGRAPH—Oxyacetylene cutting machine. The Air Reduction Sales Co., New York, N. Y.

OXYSTAIN—Welding flux. Sierra Welding Flux Co., Temple City, Calif.

OXWELD MP-11—Acetylene generator. Linde Air Products Co., New York, N. Y.

PF—Mild steel a-c, d-c electrode. Harnischfeger Corp., Milwaukee, Wis.
PF—Center finder. Interstate Sales Co., New York, N. Y.
PG—Polishing, grinding wheels. Minnesota Mining & Mfg. Co., St. Paul, Minn.
P&H—Welders, electrodes, welding positioners and Hoists, etc. Harnischfeger Corp., Milwaukee, Wis.
P-H—Welding cables. Progressive Welder Company, Detroit, Mich.
PQ SILICATE OF SODA—Silicate of soda. Philadelphia Quartz Co., Philadelphia, Pa.
PUM UNITS—Motorized hydraulic pumping units. Studebaker Machine Co., Maywood, Ill.
PWC—Arc welding, resistance welding and power cables. The Plastic Wire & Cable Corp., Jewitt City, Conn.
PACKLESS—Air control valves. Hannifin Corp., Des Plaines, Ill.
PACIFIC — Welding electrodes. Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
PACIFIC—Calcium carbide. Pacific Carbide & Alloys Co., Portland, Ore.
PACIFIC — Spot-welding electrodes. Smith Bros., San Diego, Calif.
PACO—Oxygen and acetylene. Pacific Acetylene Co., San Francisco, Calif.
PADDLE HOLDER — Resistance welding electrode holder. P. R. Mallory & Co., Inc., Indianapolis, Ind.
PAGE—Inert-gas, submerged-arc and oxyacetylene welding wires. Page Steel and Wire Div., American Chain and Cable Co., Inc., Monessen, Pa.
PAINTMARX—Metal marking crayons. The American Crayon Co., Sandusky, Ohio.
PAK-KUT—Portable cutting outfit. National Welding Equipment Co., San Francisco, Calif.
PAL—Valves for hand, solenoid and cam operation. Ross Operating Valve Co., Detroit, Mich.
PAL-WELD—Tinning and soldering fluxes and compounds, solders, soldering equipment, etc. Pal-Weld Mfg. Co., Seattle, Wash.
PALCO—Mechanical packing. Greene, Tweed & Co., New Wales, Pa.
PALMGREN—Rapid cable connectors, underwater cutting torches and electrode holders, weld gauges, drill press machinist and hand vises and hose clamps and tools. Chicago Tool and Engineering Co., Chicago, Ill.
PALMER-SHILE—Cylinder truck. Palmer-Shile Co., Detroit, Mich.
PALMETTO—Mechanical packing. Greene, Tweed & Co., North Wales, Pa.
PALMETTO PYRAMID — Molded packing. Greene, Tweed & Co., North Wales, Pa.
PANAMA—Fire hose. The Home Rubber Co., Trenton, N. J.
PANCAKE—Compact hand valve. Ross Operating Valve Co., Detroit, Mich.
PANORAM—All-plastic chippers goggle. American Optical Co., Southbridge, Mass.
PARKER-KALON—Drive-screw, also welding studs. Parker-Kalon Corp., New York, N. Y.
PARMELEE—Pipe wrench. Walworth Co., New York, N. Y.
PATROL—Air and gas fitters. The Patrol Valve Co., Cleveland, Ohio
PEARLITE—Carburizer. E. F. Houghton & Co., Philadelphia, Pa.
PEARLITIC—Iron welding rods. Morey Flux & Chemical Co., Wilmington, Del.
PECK—Automatic welding equipment. Cecil C. Peck Co., Cleveland, Ohio
PEEL-QUICK — Weld tester. Industrial Welding Services, Louisville, Ky.
PEER — Resistance-welding equipment. Peer, Inc., Benton Harbor, Mich.
PEERLESS—Safety cans. Miller-Peerless Mfg. Co., Chicago, Ill.
PEERLESS—Hoist. The Harrington Co., Philadelphia, Pa.
PELOX—Metal cleaners, polishers, rust preventives and removers, cylinder trucks. Pacific Hardware & Steel Co., Inc., San Jose, Calif.
PELRO—Mechanical packing. Greene, Tweed & Co., North Wales, Pa.
PENN—Bronze welding rods. Titan Metal Mfg. Co., Bellefonte, Pa.
PENN BRONZE—Deoxidized bronze welding rods. Titan Metal Mfg. Co., Bellefonte, Pa.
PENNSALT—Metal cleaners. Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
PENNYPINCHER—Bench vises. Columbian Vise & Mfg. Co., Cleveland, Ohio
PENSY UNITEX—Firebrick. Quigley Co., Inc., New York, N. Y.
PEP-UP—Salt tablets. United States Safety Service Co., Kansas City, Mo.
PERFECT BALANCE—Wire wheels. Pittsburgh Plate Glass Co., Baltimore, Md.
PERFECT WELDER—Leather welding gloves. E. J. Streichert, Chicago, Ill.
PERFECTION—Welding ground clamp. Tweco Products Co., Wichita, Kan.
PERFECTION—Bar clamp. Cincinnati Tool Co., Norwood, Cincinnati, Ohio
PERLITON—Liquid carburizer. E. F. Houghton & Co., Philadelphia, Pa.
PERMACLAD—Stainless clad sheet steel. Jessop Steel Co., Washington, Pa.
PERMA CLEAR—Cover lenses. Chicago Eye Shield Co., Chicago, Ill.
PERMA-FLUX—Fluxes. Permalatem Welding Alloys, Inc., Red Bank, N. J.
PERMA-LIN—Waterless hand cleanser. Permalatem Welding Alloys, Inc., Red Bank, N. J.
PERMA-LATEM—Gas and arc welding rods, electrodes and fluxes. Permalatem Welding Alloys Co., Red Bank, N. J.
PERMA-LOY—Gas welding rods. Permalatem Welding Alloys Co., Red Bank, N. J.
PERMA-TIN—Paste solder. Permalatem Welding Alloys Co., Red Bank, N. J.
PESCO—Copper welding rods and fluxes. Perry Equipment Corp., Philadelphia, Pa.
PERSORB—Sweat band. Mine Safety Appliance Co., Pittsburgh, Pa.
PETERSON—Preheating torches, surface grinders and welding fluxes. Peterson Welding Laboratories, Kansas City, Mo.
PHIL-KON B—Heat treated copper base alloys. Philadelphia Bronze & Brass Corp., Philadelphia, Pa.
PHILGAS—Liquefied petroleum gas. Phillips Petroleum Co., Detroit, Mich.
PHILLSOLV — Vapor degreasing solvent. Phillips Manufacturing Co., Chicago, Ill.
PHOMAIRE—Fire extinguishers. Pyrene Manufacturing Co., Newark, N. J.
PHOMENE — Fire extinguishers and rechargers. Pyrene Manufacturing Co., Newark, N. J.
PHOS-BRONZE — All-position electrode. Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
PHOS-COPPER—Copper alloy. Westinghouse Electric Corp., Pittsburgh, Pa.
PHOSCO—Low temperature brazing alloy. United Wire & Supply Corp., Providence, R. I.
PHOSPHORUS BRONZE 310 and 903 — Welding rods. American Brass Co., Waterbury, Conn.
PHO-SON—Low temperature brazing alloy. United Wire & Supply Corp., Providence, R. I.
PHOS-SILVER—Brazing alloys. Westinghouse Electric Corp., Pittsburgh, Pa.
PHOS-TRODE—Phosphor bronze electrode. Ampco Metal, Inc., Milwaukee, Wis.
PHOSTUBE No. 4—Phosphor-copper brazing rod. All-State Welding Alloys Co., Inc., White Plains, N. Y.
PHOTOLOGUE—Welding catalogs, photo-offset catalogs. Photologue Publishing Co., Chicago, Ill.
PHOTOSWITCH—Electronic timers, controls, and relays. Photoswitch, Inc., Cambridge, Mass.
PHOTOVOLT—Electric timer. Photovolt Corp., New York, N. Y.
PICKER—X-ray and other radiographic equipment. Picker X-ray Corp., White Plains, N. Y.
PICKLE OFF—Spatter preventive. Thompson & Co., Oakmont, Pa.
PICKLE ON—Spatter preventive. Thompson & Co., Oakmont, Pa.
PIERCE—Governor for controlling the speeds of gasoline driven electric welders. Pierce Governor Co., Anderson, Ind.
PILOTEND—Steel burner. Eclipse Fuel Co., Rockford, Ill.
PIONEER—Electrode holder and cable connectors. Detroit Electrode Holder Mfg. Co., Detroit, Mich.
PIPELINER—Welder designed for oil field use. Hobart Bros. Co., Troy, Ohio
PIPETITE-STIK—Pipe joint compound in stick form. Lake Chemical Co., Chicago, Ill.
PISTONAIR—Hoists. Joy Mfg. Co., Pittsburgh, Pa.
PITTSBURGH — Transformers. Allis Chalmers Mfg. Co., Milwaukee, Wis.
PITTSBURGH—Valves for oxygen, hydrogen, carbon dioxide, and other high pressure cylinders. Kerotest Manufacturing Co., Pittsburgh, Pa.
PITTSBURGH—Welding rods and wire. Pittsburgh Steel Co., Pittsburgh, Pa.
PLANEWELD—Mild steel electrode. The Lincoln Electric Co., Cleveland, Ohio
PLANOGRAPH—Oxyacetylene cutting machine. Air Reduction Sales Co., New York, N. Y.
PLASTALLOY—Alloy mold steel for plastic molds. Henry Disston & Sons, Inc., Philadelphia, Pa.
PLASTICOT PRESS—Press for laminating plastics, rubber and plastic moulding. Studebaker Machine Co., Maywood, Ill.
PLASTI-GLASS — Shatter-resisting, chip-proof lens for oxygen and acetylene pressure gauges. Plasti-Glass Products Co., Chicago, Ill.
PLASTI-GOGGLE—Welder's and industrial worker's goggle. Eastern Equipment Co., Willow Grove, Pa.
PLASTI-GRIP—Terminals, connectors and crimping tools. Aircraft-Marine Prod. Co., Harrisburg, Pa.
PLASTIKUT—Alloy mold steel for plastic molds. Henry Disston & Sons, Inc., Philadelphia Pa.
PLASTIRON—Hubbing iron for plastic molds. Henry Disston & Sons, Inc., Philadelphia, Pa.
PLAS-TOUGH—Plastic goggle lenses. Willson Products, Inc., Reading, Pa.
PLIBRICO — Plastic fire brick. Plibrico Jointless Firebrick Co., Chicago, Ill.
PLUMB—Files, blacksmith and scaling hammers. Fayette R. Plumb, Inc., Philadelphia, Pa.
PLUMBER KRAK-STIK — Sealing cement in stick form. Lake Chemical Co., Chicago, Ill.
PLUM LEADER—Machinist's hammers. Fayette R. Plumb, Inc., Philadelphia, Pa.
PLURALLOY—Low-hydrogen electrode. McKay Co., Pittsburgh, Pa.
PLURAMELT—Stainless clad steel. Allegheny Ludlum Steel Corp., Brackenridge, Pa.
PLY—Protective skin creams. Millburn Co., Detroit, Mich.
PLYKLEENER—Hand cleaner. Millburn Co., Detroit, Mich.
PLYKROME—Stainless-clad steel. Plykrome Corp., New York, N. Y.
PLYMOUTH—Bench and floor grinders. Clizbe Bros. Mfg. Co., Plymouth, Ind.
PNEUMATRACTOR—Tractor compressor. Schramm, Inc., West Chester, Pa.
POGO—Resistance welder cable testers. Myron Zucker Engrg. Co., Detroit, Mich.
POLYGRAPH—Oxyacetylene cutting machine. Air Reduction Sales Company, New York, N. Y.
POLY-KOTE—Rust preventive. Kelite Products, Inc., Los Angeles, Calif.
PONY—Steel bar clamp, "C" clamps, clamp fixtures, etc. Adjustable Clamp Co., Chicago, Ill.
POPULAR—Welding torch gas lighters. Safety Gas Lighter Co., Lynn, Mass.
POR-OS-WAY—Plastic grinding wheels. A. P. De-Sanno & Son, Inc., Phoenixville, Pa.
PORT-A-BELT — Belt grinding attachment. Carborundum Co., Niagara Falls, N. Y.
PORT-A-WELD — Portable welding units. Gellid Engineering, Oak Park, Ill.
PORTAIR — Blowers. Coppus Engineering Corp., Worcester, Mass.
PORTELEVATOR — Portable elevating tables. The Hamilton Tool Co., Hamilton, Ohio
PORTER-CABLE—Grinders of all types and stationary buffing and polishing machinery. The Porter-Cable Machine Co., Syracuse, N. Y.
PORTO-ARC—Gas-driven, a-c welder and power plant. Marquette Mfg. Co., Minneapolis, Minn.
PORTOMAG — Magnetic plate clamp. Portomag, Inc., Ferndale, Mich.
PORTO POWER—Pipe and conduit benders and pullers (wheel and gear). Blackhawk Mfg. Co., Milwaukee, Wis.
PORTO-SHEAR — Portable electric shears. The Black & Decker Mfg. Co., Towson, Md.
PORTO-SHEAR—Portable electric shears. Van Dorn Electric Tool Co., Towson, Md.
PORTOVENT—Ventilating hose. American Ventilating Hose Co., New York, N. Y.
POSITIVE ARC—A-c arc welder and inert-arc welder. Welding Apparatus Co., Chicago, Ill.
POWER-DOME—Air cylinders. The Bellows Co., Akron, Ohio
POWER HOUSE—Welder. Patent Specialties, Inc., Miami, Fla.
POWERON—Nozzles. American-La France Foamite Corp., Elmira, N. Y.
POWER-TWIN—Hydraulic pullers. Owatonna Tool Co., Owatonna, Minn.
POWDER WELD—Alloys, powder welding, silver brazing, blow pipes brazing, brazing alloys and brazing out(fs, gas machines, brazing gas, metal spraying equipment, nozzles, torch, powder welding torches, soldering outfits, tips, soldering tips, welding gas torches, brazing torches, welding gas welders, inert gas welders, projection welding apparatus. The Powder Weld Process Co., Brooklyn, N. Y.
POWERHUSE — Electric arc welder. Precision Welder Mfg. Co., Chicago, Ill.
POWER-PLUS — Combination a-c welder. Permalatem Welding Alloys, Inc., Red Bank, N. J.
POWRARM—Welding positioners. Wilton Tool Manufacturing Co., Chicago, Ill.
POWROMATIC—Constant-voltage welder and controls for automatic welding. Hobart Bros. Co., Troy, Ohio
POW-R-SAFE—Electric tool tester. Fendall Co., Chicago, Ill.
PRATT & CADY—Bronze and iron valves. R-P & C Valve Div. of American Chain & Cable Co., Inc., Reading, Pa.
PRE-INSULATED—Terminals, connectors and crimping tools. Aircraft-Marine Prod. Co., Harrisburg, Pa.
PRECISION—Grinding wheels. Precision Grinding Wheel Co., Inc., Philadelphia, Pa.
PRECISION — Resistance welding machines. Precision Welder and Flexopress Corp., Cincinnati, Ohio
PRECISION—A-c arc welders. Precision Welder Mfg. Co., Chicago, Ill.
PRECISION CONTROL—File holders. Remont Mfg. Co., Lombard, Ill.
PRE-FOS—Rust preventives and removers. Wyandotte Chemical Corp., Wyandotte, Mich.
PREMIER—Welding and cutting outfits. Burdett Oxygen Co., Cleveland, Ohio
PREMIER—Welding wire. American Steel & Wire Co., Cleveland, Ohio
PREMIUM—Resistance welding electrode holder. P. R. Mallory & Co., Inc., Indianapolis, Ind.
PREPO—Torch and fuel. Pressure Products Corp., Skokie, Ill.
PRESSURE BREAKER—Attachment for single-stage regulator to convert it into a 2-stage type. K-G Equipment Co., Inc., New York, N. Y.
PRESTO—Welding helmet shield. Sellstrom Manufacturing Co., Palatine, Ill.
PREST-O-LITE—Acetylene, air-acetylene equip., cylinders. The Linde Air Products Co., New York, N. Y.
PREST-O-WELD—Welding, cutting and metal-treating apparatus. The Linde Air Products Co., New York, N. Y.
PRESIVE—Welding positioner. Bryant Products Distributing Co., Jackson, Mich.
PRESS-RITE—Power presses. Sales Service Machine Tool Co., St. Paul, Minn.
PRESSTITE—Spotweld sealers. Presstite Engineering Co., St. Louis, Mo.
PRESSTITE No. 261—Weld thru sealer. Presstite Engineering Co., St. Louis, Mo.
PRIMUS—Kerosene burners, soldering irons, blow and brazing torches. Sandvik Saw & Tool, New York, N. Y.
PROCESSED—Mild steel electrode. Champion Rivet Co., Cleveland, Ohio

P

PBEX—High strength electrode. Perma-Latem Welding Alloys Inc., Red Bank, N. J.
PROCESS K—Metal cleaner. Kelite Products, Inc., Los Angeles, Calif.
PROCESS K-1-8—Metal cleaner. Kelite Products, Inc., Los Angeles, Calif.
PRODUCTER—Positioner. Bentley Weldery, Inc., Syracuse, N. Y.
PROPELLAIR—Exhaust fans. Robbins & Myers, Inc., Springfield, Ohio
PRO-CLAMP—Positioning and aligning clamps. Bernard Welding Equipment Co., Chicago, Ill.
PROGRESSIVE—Seam, flash-butt, projection pedestal, rocker-arm, multi-spot and portable gun welders, hydraulic punching units, jigs and fixtures. Progressive Welder Co., Detroit, Mich.
PROTECTED ARC—Electrodes. National Cylinder Gas Co., Chicago, Ill.
PROTECTIVE COAT—Liquid preparation which prevents weld spatter adhesion. National Cylinder Gas Co., Chicago, Ill.
PROTECTO SHIELD—Face shield. Willson Products, Inc., Reading, Pa.
PROTECTOGLO—Combustion safeguard equipment. Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
PRO-TECTO-CAPE—Welder's chrome leather safety clothing. Eastern Equipment Co., Willow Grove, Pa.
PROTECT-O-METAL—Spatter proofing compounds. G. W. Smith & Sons, Dayton, Ohio
PROTECTOR—Germicidal lamp units. C-B Tool Co., Lancaster, Pa.
PROTECT-O-VANE—Pyrometers. Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.
PRO-TEK—Protective cream. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
PROTEX—Rust preventives. Wayne Chemical Products Co., Detroit, Mich.
PROXY—Flame-cutting equipment. Flame Cutting Equipment Co., Dania, Fla.
PUL-LIFT—Ratchet lever hoist. The Yale & Towne Mfg. Co., Philadelphia, Pa.
PULLMAX—Nibbling machines and metal cutting shears. American Pullmax Co., Inc., Chicago, Ill.
PULMOSAN—Respirators, shield-respirators, welding helmets, goggles, welder's gloves, eyeshields, acid-handling equipment, and protective clothing. Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
PUR-A-WELD—Gas masks for welding. Acme Protection Equipment Co., South Haven, Mich.
PURDUE—Electrode holder. Purdue Mfg. Co., Chicago, Ill.
PURE—Block and paste carbon and carbon electrodes. Pure Carbon Co., Inc., St. Marys, Pa.
PURETUNG—Tungsten welding electrodes. Tungsten & Chem. Div. of Sylvania Elec. Prod., Inc., Towanda, Pa.
PURITAN—Oxygen, hydrogen, acetylene, gases, electric welders, acetylene generators, welding and cutting equipment, welding rods, electrodes, fluxes, pre-heating outfits, pressure gauges. Puritan Compressed Gas Corp., Kansas City, Mo.
PURITAN PM-20—Oxygen masks. Puritan Compressed Gas Corp., Kansas City, Mo.
PURITE—Cast tungsten carbide products. Electrodes, inserts, sand blast nozzles and welding rods and surfacing-hardening powder. Purnell Alloy Co., Angleton, Texas.
PURITY—Flux. Purity Cylinder Gases, Inc., Grand Rapids, Mich.
PUR-METL—Flux or bronze welding cast iron. Pratt-Brayman Mfg. Co., Oscoda, Mich.
PUROX—Welding, cutting and metal-treating apparatus, liquid gas and vacuum containers. The Linde Air Products Co., New York, N. Y.
PYLET—Electric and safety switches. The Pyle-National Co., Chicago, Ill.
PYRAMID—Babbitt metals. Magnolia Metal Co., Elizabeth, N. J.
PYRENE—Tire chains, self-closing repair links, emergency chains and chain tighteners. Pyrene Manufacturing Co., Newark, N. J.
PYRENE—Fire extinguishers. Pyrene Manufacturing Co., Newark, N. J.
PYREX—Heat resisting glasses. Corning Glass Works Corning, N. Y.
PYRO—Surface pyrometer. Pyrometer Instrument Co., Inc., Bergenfield, N. J.
PYRO—Welding torch gas lighter. Safety Gas Lighter Co., Lynn, Mass.
PYROFAX—Hydrocarbon fuel gas. The Linde Air Products Co., New York, N. Y.
PYROLENE—Propane. Burdett Oxygen Co., Cleveland, Ohio
PYROLUTE—Spatter preventive. Krembs & Co., Chicago, Ill.
PYROMARK—High temperature paint. Tempil Corp., New York, N. Y.
PYROMASTER—Indicating and recording Pyrometer. The Bristol Co., Waterbury, Conn.
PYROTONE—Ceramic backing ring. General Ceramics Corp., Keasbey, N. J.
PYR-O-VANE—Pyrometers. Minneapolis-Honeywell Regulator Co., Philadelphia, Pa.

Q

QUAKER—Welding and sand blast hose. Quaker Rubber Co., Philadelphia, Pa.
Q-CHROMASTIC—Refractories. Quigley Co., Inc., New York, N. Y.
QUELARC—Plugs and receptacles and cable connectors. Pyle-National Co., Chicago, Ill.
QUA-FLEX—Fire hose. Quaker Rubber Corp., Philadelphia, Pa.
QUAKEROID—Fibre sheet. Quaker Rubber Corp., Philadelphia, Pa.
QUEEN—Bench and floor grinders. Clizbe Bros. Mfg. Co., Plymouth, Ind.
QUICK-AID FIREGUARD—Fire extinguishers. The General Detroit Corp., Detroit, Mich.
QUICK LOCKCET—"C" Clamps. Grand Specialties Co., Chicago, Ill.
QUICK-AS-WINK—Air and hydraulic control valves and couplings. C. B. Hunt & Sons, Inc., Salem, Ohio
QUICKCET—Bar clamp. Grand Specialties Co., Chicago, Ill.
QUICK-DISCONNECT—Electrode holder. Cam-Lok Div., Empire Products, Inc., Cincinnati, Ohio
QUICK-WEDGE—Screw-holding screw drivers. Kedman Co., Salt Lake City, Utah
QUICKWORK—Rotary shear. Whiting Corp., Harvey, Ill.
QUICK-TRIK—Cable connectors. Jackson Products, Detroit Mich.
QUIK-LIFT—Electric hoist. Coffing Hoist Co., Danville, Ill.
QUIKCET—Clamps & vises. Grand Specialties Co., Chicago, Ill.
QUIKLINK—Cable splice. Burndy Engineering Co., Inc., New York, N. Y.
QIKTAP—Cable tee connector. Burndy Engineering Co., Inc., New York, N. Y.

R

R-2—Rust preventives and removers. Wyandotte Chemical Corp., Wyandotte, Mich.
R&IE—Clamps, Railway and Industrial Engineering Co., Greensburg, Pa.
R&M—Hoists, cranes, winches. Robbins & Myers Inc., Springfield, O.
RB—Shear weld trimmer. Morton Mfg. Co., Muskegon Heights, Mich.
RD—Floodlights. Benjamin Electric Mfg. Co., Des Plaines, Ill.
RLM STREAM FLO 40—Inspection equipment, fluorescent ltg. Benjamin Electric Mfg. Co., Des Plaines, Ill.
RLM SHIELD-FLO 40—Inspecting equipment, fluorescent ltg. Benjamin Electric Mfg. Co., Des Plaines, Ill.
RLM STREAM-FLO 100—Inspection equipment, fluorescent ltg. Benjamin Electric Mfg. Co., Des Plaines, Ill.
RLM TWIN-FLO 100—Inspection equipment, fluorescent ltg. Benjamin Electric Mfg. Co., Des Plaines, Ill.
RLM TX-40—Inspection equipment, fluorescent ltg. Benjamin Electric Mfg. Co., Des Plaines, Ill.
R-M—Asbestos, products and rubber products. Raybestos-Manhattan, Inc., Passaic, N. J.
R & M—Cranes, fans, hoists. Robbins & Myers, Inc., Springfield, Ohio
R MONEL—High-carbon Monel. The International Nickel Co., Inc., New York, N. Y.
R, P & C—Valves. Reading, Pratt & Cady Valve Div., American Chain & Cable Co., Inc., Reading, Pa.
RU—Sodium silicate. Philadelphia Quartz Co., Philadelphia, Pa.
RABBIT—Swiss precision files. Grobet File Co. of America, Inc., New York, N. Y.
RABIN—Welders' gloves. Rabin Glove Co., Jersey City, N. J.
RACINE—Hydraulic pumps, pressure boosters and valve. Racine Tool & Machine Co., Racine, Wis.
RACALLOY—Stainless-steel welding wire and electrodes. Reid-Avery Co., Inc., Baltimore, Md.
RACO—Automatic welding equipment and mild-steel electrodes and welding wire. Reid-Avery Co., Baltimore, Md.
RADIAC—Grinding wheels and abrasive cutoff machines. A. P. DeSanno & Sons, Inc., Phoenixville, Pa.
RADIAGRAPH—Portable, motor driven, oxy-acetylene cutting machine. Air Reduction Sales Co., New York, N. Y.
RADIANT SPATTERPROOF—Welding lamp. Radiant Lamp Corp., Newark, N. J.
RADIUS MARKERS—For marking circles. Contour Marker Corp., Compton, Calif.
RAILENDER—Hardfacing electrode. The Champion Rivet Co., Cleveland, Ohio
RAILFACE—Welding rods and electrodes. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
RAILWEAR—Heavily coated electrodes. National Cylinder Gas Co., Chicago, Ill.
RAM ASSEMBLY—Hydraulic and air ram assemblies. Studebaker Machine Co., Maywood, Ill.
RAMET—Carbide. Vascoloy-Ramet Corp., Waukegan, Ill.
RANALLOY—Alloy hardfacing electrodes. The Bergstrom Alloys Corp., Reno, Nev.
RANDALL—Tip cleaner and spark lighters. Welding & Cutting Materials Co., Kansas City, Mo.
RANDALL—Soap stone holder, tip cleaner and electrode holder. Randall Manufacturing Co., North Kansas City, Mo.
RANDOLPH—Fire extinguishers. Randolph Laboratories, Inc., Chicago, Ill.
RANGER—A-c arc welder. Larkin Welder & Machine Corp., Brooklyn, N. Y.
RANITE—Hardfacing welding electrodes and rods. Rankin Mfg. Co., Los Angeles, Calif.
RANTUNG—Mild steel tube with tungsten carbide filler. Rankin Mfg. Co., Los Angeles, Calif.
RAPID—Cable and terminal connections. Chicago Tool and Engineering Co., Chicago, Ill.
RAPID-TITAN—C clamps, jigs and fixtures. Rapid-Titan Manufacturing Co., Grand Rapids, Mich.
RAY-BAN—Glare protection lens. Bausch & Lomb Optical Co., Rochester, N. Y.
RAYTHEON—Electronic tubes for use in welding controls, miniature spot welders. Raytheon Mfg. Co., Waltham, Mass.
READING—Steel valves and fittings. R-P & C Valve Div. of American Chain Cable Co., Inc., Reading, Pa.
READY-FLOW—Silver brazing alloy. American Platinum Works, Newark, N. J.
RE-BIT—Replaceable chisels for chipping hammers. Atlas Welding Accessories, Inc., Ferndale, Mich.
RECAP—Replaceable insert, spotwelding tip. Ampco Metal, Inc., Milwaukee, Wis.
RECK-RACK—Welding positioner. Blackhawk Mfg. Co., Milwaukee, Wis.
RED CENTER—Wire wheels. Pittsburgh Plate Glass Co., Baltimore, Md.
RED CHIP—High speed steel bits. Firth Sterling Steel & Carbide Corp., Pittsburgh, Pa.
RED COAT—Coated abrasives. Michigan Abrasive Co., Detroit, Mich.
RED DEVIL—Mild steel electrodes. The Champion Rivet Co., Cleveland, Ohio
RED DIAMOND—Oxygen, acetylene, hydrogen and welding-grade carbon dioxide. The Liquid Carbonic Corp., Industrial Gas Div., Chicago, Ill.
REDDY—Grinder. The United States Electrical Tool Co., Cincinnati, Ohio
RED END—Folding wood rules. The Lufkin Rule Co., Saginaw, Mich.
RED END—Hack saw blades. Simonds Saw & Steel Co., Fitchburg, Mass.
RED FLASH—Fluxes. Arc Welding Supply Co., Bronx, N. Y.
RED HEAD—Chain Pipe Vises. Billings and Spencer Co., Hartford, Conn.
RED HEAD—Welding and lifting "C" clamps. Chicago Boiler Co., Chicago, Ill.
RED HEAD—Acetylene generators, low pressure. Harris Calorific Co., Cleveland, Ohio
RED HEAD—Wood mallets. O. P. Link Handle Co., Salem, Ind.
RED-ARROW—Vises. Columbia Vise & Mfg. Co., Cleveland, Ohio
REDI-ARC—A-c welder. Marquette Mfg. Co., Inc., Minneapolis, Minn.
REDI-FLUXED—Bronze welding rod. National Cylinder Gas Co., Chicago, Ill.
REDI-GLO MARK II—Fire extinguisher. Stop-Fire, Inc. Brooklyn, N. Y.
REDI-MIX—Powdered solder and flux. Anchor Metal Co., Brooklyn, N. Y.
RED-ROD—Steel welding electrodes. Marquette Manufacturing Co., Inc., Minneapolis, Minn.
RED SEAL—Flannel gauntlet. Boss Mfg. Co., Kewanee, Ill.
RED SHIELD—Twist drills and reamers. Standard Tool Co., Cleveland, O.
RED STREAK—Circular metal saws. Simonds Saw & Steel Co., Philadelphia, Pa.
RED STRIPE—Emery cloth. Clover Manufacturing Co., Norwalk, Conn.
RED TANG—Files. Simonds Saw & Steel Co., Fitchburg, Mass.
REED—Vises. Reed Manufacturing Co., Erie, Pa.
REED—Automatic welding fixtures, turning rolls, etc. Webb Corp., Webb City, Mo.
REEVES FIRE-CHIEF—Welding curtains. A. Smith and Son, Inc., Philadelphia, Pa.
REFLECTOGAGE—Ultrasonic thickness gage. Sperry Products, Inc., Danbury, Conn.
RE-FLECTO-RAY—Lenses. Chicago Eye Shield Co., Chicago, Ill.
REFLECTOSCOPE—Ulytrasonic flaw detector. Sperry Products, Inc., Danbury, Conn.
REFORMED—Covered steel electrode. Arcos Corp., Philadelphia, Pa.
REFRAX—Refractories, bricks and special shapes. The Carborundum Co., Niagara Falls, N. Y.
REGO—Oxygen, acetylene, hydrogen manifolds and regulators, air regulators, medical oxygen therapy regulators and cylinder valves. The Bastian-Blessing Co., Chicago, Ill.
REGO GX—Welding torch. National Cylinder Gas Co., Chicago, Ill.
REGULARC—Constant-potential welder. General Electric Co., York, Pa.
REHEAT—Asbestos sheet. Quaker Rubber Corp., Philadelphia, Pa.
REINER—Portable acetylene generator. Reiner and Campbell, Elizabeth, N. J.
RELATRUL BALANCER—Proportioning relay. Automatic Temperature Control Co., Inc., Philadelphia, Pa.
RELIABLE—Screw plate sets. Mayhew Steel Products, Inc., Shelburne Falls, Mass.
RELIATRON TUBES—Electronic tubes. Westinghouse Electric Corp., Pittsburgh, Pa.
RELIA-WELD—Flash welders. Swift Electric Welder Co., Detroit, Mich.
RELIEF—Fire hose. Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
RELTOOL—Cutting tools. Reltool Corp., Milwaukee, Wis.
REMONT—File holder. Remont Mfg. Co., Lombard, Ill.
REMOTROL—Remote controlled hydraulic jacks and pullers. Templeton, Kenly & Co., Broadview, Ill.
REMOVENE—Metal cleaner and rust preventive and remover. Krembs & Co., Chicago, Ill.
REP—Fluxes, soldering. Puritan Compressed Gas Co., Kansas City, Mo.
REPEATER-BRUSH—Weld cleaning hammer. Bernard Welding Equipment Co., Chicago, Ill.

REPUBLIC—Sand blast, steam, dual line welding and ventilating hose and rubber mallets. Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio

REPUBLIC—Steel and electric welded pipes, casing, tubing, etc. Republic Steel Corp., Cleveland, Ohio

REPUBLIC DOUBLE STRENGTH—Copper nickel molybdenum high tensile steel. Republic Steel Corp., Cleveland, Ohio

RESBOND—Coated abrasive. Clover Manufacturing Co., Norwalk, Conn.

RESILITE—Resin bond abrasive. Armour & Co., Alliance, Ohio

RESINAL—Cloth belts. Behr-Manning Corp., Troy, N. Y.

RESISTAL—Chipping goggles. Harry Buegeleisen, Inc., Brooklyn, N. Y.

RESISTO-LOY—Hardfacing metal. Resisto-Loy Co., Grand Rapids, Mich.

RESOTRON—Mobile x-ray units. General Electric Co., X-Ray Dept., Milwaukee, Wis.

RETORT CEMENT—Cement high temperature. Quigley Co., Inc., New York, N. Y.

REVERE BRAZING METAL—Brazing metal. Revere Copper and Brass, Inc., New York, N. Y.

REVERE ELECTROLYTIC COPPER—Copper wire. Revere Copper and Brass, Inc., New York, N. Y.

REVERE 456—Bronze welding rod. Revere Copper and Brass, Inc., New York, N. Y.

REVERE MANGANESE BRONZE—Bronze welding rods. Revere Copper and Brass, Inc., New York, N. Y.

REVERE PHOSPHOR BRONZE—Tin bronze welding rods. Revere Copper and Brass, Inc., New York, N. Y.

REVERE PHOSPHOR DEOXIDIZED COPPER—Phosphor deoxidized copper welding rods. Revere Copper and Brass, Inc., New York, N. Y.

REVERE SILICON DEOXIDIZED COPPER—Silicon deoxidized copper. Revere Copper and Brass, Inc., New York, N. Y.

REVERS-O-CHARGE—Welding control equipment. Weltronic Co., Detroit, Mich.

REVOLVATOR—Hand and electric trucks, portable and freight elevators and turntables. Revolvator Co., North Bergen, N. J.

REX-AIRATE—Fans and blowers. Air Controls, Inc., Cleveland, Ohio

REX—Resistance welders. Rex Welder & Engineering Co., Kansas City, Mo.

REX—Sprocket chains. Chain-Belt Co., Milwaukee, Wis.

REX TUBE—Brass & steel tubing & ventilating tubing. Flexonics Corp., Maywood, Ill.

REX WELD—Steam hose. Flexonics Corp., Maywood, Ill.

REXARC—Hardfacing and manganese electrodes, and automatic welders and positioners. Sight Feed Generator Co., West Alexandria, Ohio

REXWELD—Hardfacing electrodes. Crucible Steel Co. of America, New York, N. Y.

REYNOLDS—Aluminum and aluminum alloys. Reynolds Metal Co., Louisville, Ky.

REZ-SIZE—Abrasives. Clover Mfg. Co., Norwalk, Conn.

REZISTAL—Stainless-steel electrodes. Crucible Steel Co. of America, New York, N. Y.

REZISTAN—Cast-iron alloys. Uniworld Research Corp. of America, Cleveland, Ohio

RIDO DUST—Chipping goggles. Harry Buegeleisen, Inc., Brooklyn, N. Y.

RIDO RAY—Welders' goggles. Harry Buegeleisen, Inc., Brooklyn, N. Y.

RIEHLE—Machines for testing of materials. Riehle Testing Machine Div., American Machine & Metals, Inc., E. Moline, Ill.

RIGGER—Cutting torches for acetylene propane and natural gas. Universal Cutting & Welding Equipment Mfg. Co., Inc., Fort Lauderdale, Fla.

RIGID—Pipe cutters wheels, etc., Collmer Brothers, South Bend, Ind.

RIPLEY RIVET GUN—Rivet gun. Ripley Co., Inc., Middletown, Conn.

RIPLEY WELDING TIMER—Timer for spot welding. Ripley Co., Inc., Middletown, Conn.

RIVERSIDE—Phosphor bronze alloys, uncoated welding rods. Riverside Metal Co., Riverside, Burlington Co., N. J.

RIVWELD—Stud welder fastener. Nelson Stud Welding Div., Gregory Industries, Inc., Lorain Ohio

ROBERTS—Tube-copper. J. N. Fauver Co., Inc., Detroit, Mich.

ROBOTECTOR—Electronic water saver. Robotron, Inc., Detroit, Mich.

ROBOTRON—Industrial electronic weld timers. Robotron, Inc., Detroit, Mich.

ROBVON—Welding fitting, weld back-up rings, stainless steel. The Robvon Corp., Denver, Colo.

ROCKET—Trolley. David Round & Son, Cleveland, Ohio

ROCKET—Iron-powder electrodes. Hobart Bros. Co., Troy, Ohio

ROCKET "SI"—Electric hoist. David Round & Son, Cleveland, Ohio

ROCKET-ROD—Mild steel coated electrode a-c or d-c. Hobart Bros. Co., Troy, Ohio

ROCKWELL—Hardness testers. Wilson Mechanical Instrument Co., New York, N. Y.

ROD-HOD—Electrode container. Marquette Mfg. Co., Inc., Minneapolis, Minn.

ROD SAVER—Electrode holders. Martin Wells, Inc., Los Angeles, Calif.

RODEO—Safety glasses. Bausch & Lomb Optical Co., Rochester, N. Y.

ROEBLING—Welding wire and cables. John A. Roebling's Sons Co., Trenton, N. J.

ROETEMP—Magnet wire. John A. Roebling's Sons Corp., Trenton, N. J.

ROEWELD—Welding cable. John A. Roebling's Sons Co., Trenton, N. J.

ROKIDE—Ceramic coatings. Norton Co. Worcester, Mass.

ROLLALOY—Electrode for rebuilding rolls. Industrial Overlay Metals, Inc., Eaton, Ohio

ROLL MATRIX—Build-up electrode. All-State Welding Alloys Co., Inc., White Plains, N. Y.

ROL-MAN—Electric repointer bars, plate, bars (round and flat). Manganese Steel Forge Co., Philadelphia, Pa.

ROLTOE—Toe lift hydraulic jacks. Templeton, Kenly & Co., Broadview, Ill.

ROMAN BRONZE—Bronze rod. Revere Copper and Brass, Inc., New York, N. Y.

ROME 60 & 40—Welding cable. Rome Cable Corp., Rome, N. Y.

ROSS—Control and operating valves. Ross Operating Valve Co., Detroit, Mich.

ROTAIR FURNACE—Furnace. Eclipse Fuel Engineering Co., Rockford, Ill.

ROTO-JIG—Work center. Technion Design & Mfg. Co., New York, N. Y.

ROTOR—Pneumatic tools. Rotor Tool Co., Cleveland, Ohio

ROUGH SERVICE—Incandescent lamps. Champion Lamp Works, Lynn, Mass.

ROUND FILE IMPROVED—Gas lighters. Safety Gas Lighter Co., Lynn, Mass.

ROUND FILE POPULAR—Gas lighters. Safety Gas Lighter Co., Lynn, Mass.

ROXCO—Pipe wrenches, tube cutters and strap wrenches. Trimont Mfg. Co., Div. of Aetna Industrial Corp., Roxbury, Mass.

ROYAL—Hardening compound. Anti-Borax Compound Co., Fort Wayne, Ind.

ROYAL ARC 200A—Portable arc welder. Royal Arc Industries, Inc., Chillicothe, Ill.

ROYAL CLIPPER—Metal cutter and shrinker; metal stretcher and crimper; cable splicing and joggling blocks; rivet cutter. C. B. Tool Co., Lancaster, Pa.

ROYAL CREST—Press type spot welder. The Central Sales Corp., Chicago, Ill.

ROYALITE—Grinding wheels. U. S. Rubber Co., Fort Wayne, Ind.

RSNI—Silver brazing alloy. Handy & Harman, New York, N. Y.

RUBBERLOKT—Rotary wire brushes. Hewitt Rubber Div., Hewitt-Robins, Inc., Buffalo, N. Y.

RUBWET—Waterproof abrasive. Armour & Co., Alliance, Ohio

RUBY'S—Stainless steel soldering flux. The Ruby Chemicl Co., Columbus, Ohio

RUBY FLUID—Soldering and tinning flux and cored solder. The Ruby Chemical Co., Columbus, Ohio

RUEMELIN—Welding fume collector. Ruemelin Mfg. Co., Milwaukee, Wis.

RUF-TRED—Electrode holder. Metallizing Engineering Co., Inc., Long Island City, N. Y.

RUFLUX 61—Rutile milled. Titanium Alloy Mfg. Div., Ntional Lead Co., New York, N. Y.

RUFLUX 84—Rutile granular. Titanium Alloy Mfg. Div., National Lead Co., New York, N. Y.

RUFLUX P—Potassium titanate. Titanium Alloy Mfg. Div., National Lead Co., New York, N. Y.

RUFLUX S—Sodium titanate. Titanium Alloy Mfg. Div., National Lead Co., New York, N. Y.

RUFLUX T—Zirconium oxide. Titanium Alloy Mfg. Div., National Lead Co., New York, N. Y.

RUPTAIR—Circuit breakers. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

RUPTOR—Circuit breakers. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

RUSSELL—Weldors' gloves. Frank Russell Glove Co. Berlin, Wis.

RUST-I-CIDE—Non-rusting soldering flux for soldering iron or steel. Rusticide Products Co., Cleveland, Ohio

RUSTICON—Rust preventives. Philadelphia Quartz Co., Philadelphia, Pa.

RUST-BLOC No. 20—Rust preventive. Turco Products, Inc., Los Angeles, Calif.

RUSTOLEUM—Rust preventive coating. Rustoleum Corp. Evanston, Ill.

RUSTRIPPER—Alkaline deruster. Oakite Products, Inc., New York, N. Y.

RUST-SOL—Rust remover. Klem Chemical, Inc., Dearborn, Mich.

RUST-TOX—Preparation for preventing rust. Skybrite Co., Cleveland, Ohio

RUST VETO—Rust preventive. E. F. Houghton & Co., Philadelphia, Pa.

RYCASE—Free machining manganese steel. Joseph T. Ryerson & Son, Inc., Chicago, Ill.

RYCROME—Heat treated alloy steel. Joseph T. Ryerson & Son, Inc., Chicago, Ill.

RYCUT—Free machining alloy steel. Joseph T. Ryerson & Son, Inc., Chicago, Ill.

RY-DIE—Air hardening tool steel. Joseph T. Ryerson & Son, Inc., Chicago, Ill.

RYERTEX—Phenolic laminated plastic. Joseph T. Ryerson & Son, Inc., Chicago, Ill.

S

6S—Electrode holder. Martin Wells, Inc., Los Angeles Calif.

S.C.S. No. 7—Flux. Farrelloy Co., Philadelphia, Pa.

SF—Acetylene generators, soldering and brazing equipment, welding and brazing fluxes, accessories, etc. Sight Feed Generator Co., West Alexandria, Ohio

SGI—Acetylene; helium; nitrogen; oxygen. Steele Gases, Inc., Chicago, Ill.

SM—A-c—d-c electrode. Harnischfeger Corp., Milwaukee, Wis.

S MONEL—Silicon-bering monel. The International Nickel Co., Inc., New York, N. Y.

S-M-S—Resistance welder electrodes and tips, rod stock, forgings and castings, seam welding wheels and rolls, flash and projection welding dies, electrode holders, etc. S-M-S Corp., Detroit, Mich.

SR—Corrosion and heat resistant alloys. Uniworld Research Corp. of America, Cleveland, Ohio

SR-4—Strain gage. Baldwin-Lima-Hamilton Corp., Philadelphia, Pa.

S.R.P.—Rust preventive. L. Soneborn Sons, Inc., New York, N. Y.

SS HIGH STRENGTH—Alloy welding rod. Steel Sales Corp., Chicago, Ill.

SW—Line of electrodes. A. O. Smith Corp., Milwaukee, Wis.

SW 44 and 45—Iron-powder electrodes. A. O. Smith Corp., Milwaukee, Wis.

SW/WCO—Shear blades or knives. Simonds Worden, White Co., Dayton, Ohio

SADCO—Oxygen and acetylene. Houston Oxygen Co., Inc., Houston, Texas

SAF-HED—Safety hat. United States Safety Service Co., Kansas City, Mo.

SAF-I-FLEX—Goggle. United States Safety Service Co., Kansas City, Mo.

SAF-I-LENS—Lenses, welding and chipping. United States Safety Service Co., Kansas City, Mo.

SAF-I-SHIELD—Chippers goggles. United States Safety Service Co., Kansas City, Mo.

SAF-I-SPECS—Spectacle type goggle. United States Safety Service Co., Kansas City, Mo.

SAF-I-WELD—Welding helmet. United States Safety Service Co., Kansas City, Mo.

SAF-T—Leather safety garments, leather and asbestos curtains. Aljay Mfg. Co., Inc., Philadelphia, Pa.

SAF-T-CUT—Abrasive discs, wheels. Bay State Abrasive Products Co., Westboro, Mass.

SAF-VUE—Thermacote welding Prods., Inc., Newark, N. J.

SAFCO—Safety clothing and equipment. Safety Clothing and Equipment Co., Cleveland, Ohio

SAFE-AIRE—Dust collectors suitable for use in various dust collecting. Ralph Maitland, Cleveland, Ohio

SAFE-T-CHECK—Regulators. Modern Engineering Co., St. Louis, Mo.

SAFE-T-VIS—Protective goggles. The Univis Lens Co., Dayton, Ohio

SAFEWAY—Hand operated chain hoists. Wright Hoist Div., American Chain & Cable Co., Inc., York, Pa.

SAFEWELD—Welding plates. Flood Safety Products Co., Chicago, Ill.

SAFE-WELD—Welding helmets. E. D. Bullard Co., San Francisco, Calif.

SAFETY—File holders. Remont Mfg. Co., Lombard, Ill.

SAFETY—Grinding wheels. Simonds Worden, White Co., Dayton, Ohio.

SAFETY CIRCLE—Motors. Allis-Chalmers Mfg. Co., Milwaukee, Wis.

SAFETY PULL—Ratchet lever hoist. Coffiing Hoist Co., Danville, Ill.

SAFETY SERVICE—Welding helmets. Safety Equipment Service Co., Cleveland, Ohio

SAFLEX—Square D Co., Detroit, Mich.

SAFRONT—Pneumatic welder timer. Square-D Co. Industrial Controller Div., Milwaukee, Wis.

SAFTEX—Hard-resin abrasive grinding wheel. Metal Removal Co., Chicago, Ill.

SALEM—Salem ladles, kettles and skimmers. The Salem Tool Co., Salem, Ohio

SAL BRICK—Solid sal ammoniac for cleaning and tinning soldering irons. American Solder and Flux Co., Philadelphia, Pa.

SALSBURY—Pneumatic air hammer. Salisbury Corp., Los Angeles, Calif.

SAM—Semiautomatic welding head manipulator. The Pandjiris Weldment Co., St. Louis, Mo.

SAMCO—Clamps, tool handles, ladles, pots and kettles, circular and hole saws, cylinder trucks. Syracuse Alloy Metals Corp., Syracuse, N. Y.

SAMSON—Hand power punches, shears, bar cutters and bar benders and power punches, combination punching and shearing machines. Julius Blum & Co., Inc., New York, N. Y.

SAMSON—Grinding wheel dressers. G. J. Wallen Manufacturing Co., San Francisco, Calif.

SAMSON—Wire wheel and rotary wire brushes. The Manufacturers Brush Co., Cleveland, Ohio

SAND-O-FLEX—Contour sanding wheel. Merit Prod., Inc., Culver City, Calif.

SAND SCREEN—Open-mesh abrasives. The Carborundum Co., Niagara Falls, N. Y.

SANIGLAS—Spectacle type goggle with side shields. American Optical Co., Southbridge, Mass.

SANI-SPRAY—Goggle spray station, cleaning fluid for goggles, cleaning tissues. Allen Optical Co., Buffalo, N. Y.

SANKEY—Foot and shin guards. Safety Clothing & Equip. Co., Cleveland, Ohio

SAOCO—Oxygen acetylene. Houston Oxygen Co., Touston Texas

SATINARC—Modified type of sul-coated electrode. Universal Power Co., Cleveland, Ohio

SAUNDERS—Pipe cutters' wheels, etc. Collmer Bros., South Bend, Ind.

SAW GUN—Power driven hack saw and file. Mid-States Welder Mfg. Co., Chicago, Ill.

SAXE—Seat and erection clip. J. H. Williams & Co., Buffalo, N. Y.

SCAIFLUX 21 and 22—Silver brazing fluxes. Scaife Co., Oakmont, Pa.
SCALEMASTER—Hammers, chipping and scaling. The Fibre-Metal Products Co., Cheester, Pa.
SCALEMASTER—Weld cleaning tool. Industrial Products Co., Philadelphia, Pa.
SCALE-OFF—Rust and scale remover. Kelite Products, Inc., Los Angeles, Calif.
SCHOITZ—Automatic cutting machine. Schoitz Engineering Works, Waterloo, Iowa.
SCIAKY—Resistance welding equipment which includes spot welders, seam and roll spot welders, flash-butt welders, projection welders, multiple head spot welders and portable equipment. A-C and D-C resistance welders. Sciaky Bros., Chicago, Ill.
SCI-TRON—Current integrator. Venus Products Co., Chicago, Ill.
SCOPEMASTER—Fluorescent X-ray unit. General Electric Co., X-Ray Dept., Milwaukee, Wis.
SCORFILL—Alloy used to fill scored automobile and other cylinders. Smith Welding Equipment Corp., Minneapolis, Minn.
SCOTCH—Tapes. Minnesota Mining & Mfg. Co., St. Paul, Minn.
SCOUT—Utility bench vise. Wilton Tool Mfg. Co., Chicago, Ill.
SCRATCHMASTER—Wire brushes. The Fibre-Metal Products Co., Chester, Pa.
SCRUGUN—Electric screw drivers. Black & Decker Mfg. Co., The, Towson, Md.
SCULLGUARDS—Safety hats. Mine Safety Appliances Co., Pittsburgh, Pa.
SE-CO—Cylinder valve. Security Valve Co., Los Angeles, Calif.
SEACO—Hardfacing electrodes. Stulz-Sickles Co., Newark, N. J.
SEAL KRAX—Solder bars. Modern Engineering Co., Inc., St. Louis, Mo.
SEAL-OFF—Solenoid operated air valves. The Taylor-Winfield Corp., Warren, Ohio
SEAL-TIGHT—A-c arc welders. Will-Weld Mfg. Co., Inc., Omaha, Neb.
SEAL-X-O—Filler for rough and porous welds. Metal Bond Mfg. Co., St. Louis, Mo.
SEALTITE—Electrical wiring conduit. American Metal Hose branch, American Brass Co., Waterbury, Conn.
SEARCHLIGHT—Acetylene cylinders. Air Reduction Sales Co., New York, N. Y.
SECUREYE—Face shield. Pulmosan Safety Equipment Corp., Brooklyn, N. Y.
SECURITY FLEX—Arc welding cable. Anaconda Wire & Cable Co., New York, N. Y.
SEEL COTE—Weld protection alloy. Fusion Engineering, Cleveland, Ohio
SEEM-WELDO—Seam weld timer. National Time and Signal Corp., Detroit, Mich.
SEL-BLUE—White filament blue lens. Sellstrom Manufacturing Co., Palatine, Ill.
SEL-GREEN—Hardened green lens. Sellstrom Manufacturing Co., Palatine, Ill.
SEL-HARD—Hardened clear lenses. Sellstrom Manufacturing Co., Palatine, Ill.
SEL-O-MATIC—Adjustment for helmets. Sellstrom Manufacturing Co., Palatine, Ill.
SEMCO—Dies, press equipment, special machines. Service Machine Co., Elizabeth, N. J.
SEL-SAFE—Laminated clear lens. Sellstrom Mfg. Co. Palatine, Ill.
SEL-XX—Goggle and helmet lens. Sellstrom Mfg. Co., Palatine, Ill.
SEL-O-MATIC—Welding helmets. Sellstrom Mfg. Co., Palatine, Ill.
SEMPUN—Portable kit for magnetic particle inspection. Rice-Peterson Sales, Inc., Palo Alto, Calif.
SENECA GASWELD—Electric and gas welding wire. Seneca Wire & Mfg. Co., Fostoria, Ohio
SERVICE-LITE—Floodlights. Benjamin Electric Mfg. Co., Des Plaines, Ill.
SERV-RITE—Protecting tubes. Claud S. Gordon Co., Chicago, Ill.
SESCO—Cam clamp. Special Engineering Service, Inc., Detroit, Mich.
770 FLUX—Submerged arc flux. Lincoln Electric Co., Cleveland, Ohio.
SEYMOUR—Bronze welding rods. The Seymour Mfg. Co., Seymour, Conn.
SHAPE-RITE—Shapers. Sales Service Machinee Tool Co., St. Paul, Minn.
SHAW BOX—Electric cranes. Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Div., Muskegon, Mich.
SHAWINIGAN—Calcium carbide. Shawinigan Products Corp., New York, N. Y.
SHEARITE—Cutting tool. Aircraft-Marine Prod. Co., Harrisburg, Pa.
SHELBY—Seamless steel tubing. National Tube Co., Div. of U. S. Steel Corp., Pittsburgh, Pa.
SHELL INDUSTRIAL GAS—Liquefied petroleum gas. Shell Oil Co., Inc., New York, N. Y.
SHEPARD-NILES—Electric cranes and hoists. Stryco Mfg. Co., San Francisco, Calif.
SHERMAN—Couplings and fittings and connectors and lugs. H. B. Sherman Mfg. Co., Battle Creek, Mich.
SHIELDALLOY—Electrode-coating materials. Shieldalloy Corp., Newfield, N. J.
SHIELD-ARC—D-c welding machines and electrodes. The Lincoln Electric Co., Cleveland, Ohio
SHIELD BRAND—Twist drills, grinding wheel dressers, bolt stocks and dies. Standard Tool Co., Cleveland, Ohio
SHIFTWEIGHT—Wire reels. Moslo Machinery Co., Cleveland, Ohio
SHIPCO—Steel welding wire and aluminum welding rods. Superior Oxy-Acetylene Machine Co., Hamilton, Ohio
SHOBER—Electrodes and cable connectors. Shober Sales Co., Stockton, Calif.
SHOCKLESS—Center drills. Reltool Corp., Milwaukee, Wis.
SHOOT-A-LITE—Gas lighter. Shoot-A-Lite Corporation, New York, N. Y.
SHOP-KING—Arc welders. Precision Welder Mfg. Co., Chicago, Ill.
SHOP MULE—Welding tractor. Buda Div., Allis-Chalmers Mfg. Co., Harvey, Ill.
SHOPKING—Bench vise. Wilton Tool Mfg. Co., Chicago, Ill.
SHORTSTUB—Electrode holders. Bernard Welding Equipment Co., Chicago, Ill.
SHORTY—Portable electric drill. Black & Decker Mfg. Co., The, Towson, Md.
SHRADER—Magnetic welding positioners and contractors, flame-cutting guides and inspection equipment. F. W. Shrader Co., Culver City, Calif.
SHUR-FLO—Automatic interlock (flow switch). Hays Mfg. Co., Erie, Pa.
SHURLITE—Torch and gas lighters and flints. G. C. Fuller Mfg. Co., Cincinnati, Ohio
SIERRA—Welding flux. Sierra Welding Flux Co., Temple City, Calif.
SIGHT FEED—Portable and stationary acetylene generators and acetylene compressing plants, welding equipment and accessories. Sight Feed Generator Co., West Alexandria, Ohio
SIGMA—Mig (metal inert-gas) welding equipment. The Linde Air Products Co., New York, N. Y.
SIL-AID—Silver brazing alloys. United Wire & Supply Corp., Providence, R. I.
SIL-BOND—Silver brazing alloys. United Wire & Supply Corp., Providence, R. I.
SIL-CO—Low temperature brazing alloy. United Wire & Supply Corp., Providence, R. I.
SILBRAZ—Silver brazed joints. Walworth Co., New York, N. Y.
SIL-CARB—Silicorn carbide papers and cloths. Clover Manufacturing Co., Norwalk, Conn.
SILENT HOIST—Winches and capstans. Silent Hoist & Crane Co., Brooklyn, N. Y.
SILENTVANE—Exhaust Fans. Westinghouse Electric Corp., Pittsburgh, Pa.
SIL-FLUX—Brazing fluxes. United Wire & Supply Corp., Providence, R. I.
SIL-FOS—Silver brazing alloy. Handy & Harman, New York, N. Y.
SILFRAM—Cast hardfacing rod. Stoody Co., Whittier, Calif.
SIL-GON—Low temperature brazing alloy. United Wire & Supply Corp., Providence, R. I.
SIL-LO—Low temperature brazing alloy. United Wire & Supply Corp., Providence, R. I.
SIL-LOY—Low temperature brazing alloy. United Wire & Supply Corp., Providence, R. I.
SILK-HAT—Tinning compounds and fluxes. Alwarth Chemical Corp., New York, N. Y.
SIL-TEX—Low temperature brazing alloy. United Wire & Supply Corp., Providence, R. I.
SIL-TITE—Silver brazing alloys. United Wire & Supply Corp., Providence, R. I.
SILTUBE No. 1—Low melting silver brazing rod. All-State Welding Alloys Co., Inc., White Plains, N. Y.
SILVALOY—Silver brazing alloys and fluxes. The American Platinum Works, Newark, N. J.
SILVALOY—Alloy steel, shafting steel. Pyramid Steel Co., Cleveland, Ohio
SILVALOY—Silver solders. Steel Sales Corp., Chicago, Ill.
SILVALOY—Welding, brazing and soldering flux. The Linde Air Products Co., New York, N. Y.
SILVER—Welding electrodes. American Agile Corp., Cleveland, Ohio
SILVER FLASH—Hack blades, hand and power. E. C. Atkins & Co., Indianapolis, Ind.
SILVER MAGIC—Silver solder. Universal Welder Corp., Cleveland, Ohio
SILVER PHOSTUBE—Phosphor copper silver brazing rod. All-State Welding Alloys, Inc., White Plains, N. Y.
SILVER STAR—Lightweight cutting torch. Smith Welding Equipment Corp., Minneapolis, Minn.
SILVER STAR—Steel. Firth Sterling Steel & Carbide Corp., McKeesport, Pa.
SILVER STEEL—Circular saws, hacksaw blades, files. E. C. Atkins & Co., Indianapolis, Ind.
SILVER STREAK—Aluminum oxide abrasive coated cloth in disc and roll form. Abrasive Products, Inc., South Braintree, Mass.
SILVER STREAK—Pneumatic drills. Joy Mfg. Co., Pittsburgh, Pa.
SIMEX—Abrasive wheels. Simonds Abrasive Co., Philadelphia, Pa.
SIMONDS—Metal cutting band saw blades. Simonds Saw & Steel Co., Fitchburg, Mass.
SIMPLEX—Portable crne. David Round & Son, Cleveland, O.
SIMPLEX—Jacks. Templeton, Kenly & Co., Broadview, Ill.
SIMPLEX—Abrasive belt grinders. Walls Sales Corp., New York, N. Y.
SIMPLEX—Electrode holder. The Fibre-Metal Products Co., Chester, Pa.
SIMPLEX—Oxyacetylene welding rod. Air Reduction Sales Co., New York, N. Y.
SIMPLEX-JENNY—Center hole, hydraulic puller. Templeton, Kenly & Co., Broadview, Ill.
SINGER—Wearing apparel such as coats, overalls, bibs, sleeves, etc. Singer Leather Clothing Co., Philadelphia, Pa.
SITUFT—Brushes. The Osborn Mfg. Co., Cleveland, Ohio
6-S—Electrode holders. Martin Wells, Inc., Los Angeles, Calif.
62 INCONEL—Electrode for welding inconel. International Nickel Co., Inc., New York, N. Y.
64 K MONEL—Electrode for welding "K" monel. International Nickel Co., Inc., New York, N. Y.
600—Electrode for arc welding of cast iron. C. E. Phillips & Co., Detroit, Mich.
636-SERIES—Filters and dryers for gas and air. The Gas Flux Co., Mansfield, Ohio
660 FLUX—Submerged arc flux. Lincoln Electric Co. Cleveland, Ohio
6N6-(M2)—Molybdenum high speed steel. Henry Diston & Sons, Inc., Philadelphia, Pa.
SKIL—Portable saws, drills, grinders, sanders, etc. Skil Corp., Chicago, Ill.
SKIP TOOTH—Pipe die. Nye Tool Co., Chicago, Ill.
SKULLGUARD—Protective hat combined with a welding shield. Mine Safety Applications Co. Pittsburgh, Pa.
SLAGO—Dross reclaimer. Farrelloy Co., Philadelphia, Pa.
SLAIDARC—Coated stainless electrodes. Universal Welder Corp., Cleveland, Ohio
SLAP-ON—Plow share reclaiming units. Wiese Plow Welding Co., Perry, Iowa
SLIP-ON—Cartridge renewal for a gas lighter. Safety Gas Lighter Co., Lynn, Mass.
SLIP-ON—Soldering tip. Anzick Mfg. Co., Van Dyke, Mich.
SLO-DRIVE—Drill press speed reducer. Cardinal Machine Co., Glendale, Calif.
SMITH-CLAMP—Pipe fittings and pipe welding Clamp. Pipe Line Development Co., Cleveland, Ohio
SMITH DOLAN—Low-frequency induction-heating equipment. Electric Arc Inc., Newark, N. J.
SMITH'S—Welding and cutting torches, regulators, a-c arc welders, welding rods and electrodes, accessories and supplies, preheating torches, acetylene generators, etc. Smith Welding Equipment Corp., Minneapolis, Minn.
SMITHWAY—Welding electrodes and machines. A. O. Smith Corp., Milwaukee, Wis.
SMOOTH-ON—Iron, steel, aluminum and bronze cements. Smooth-On Mfg. Co., Jersey City, N. J.
SMOOTH-RUN—Abrasive belts, bands and sleeves. Clover Manufacturing Co., Norwalk, Conn.
SNAP-LOCK—Plier wrench. Seymour Smith & Son, Inc., Oakville, Conn.
SNAP-TITE—Hose couplers. Snap-tite, Inc., Erie, Pa.
SNUGFIT—Wire pipe hooks. The Paine Co., Chicago, Ill.
SOCKET END WELDOLETS—Forged pipe welded fittings. Bonney Forge & Tool Works, Allentown, Pa.
SOCO—Oxygen and acetylene. Houston Oxygen Co., Houston, Tex.
SOD-LOOM—Aluminum solder. Omaha Welding Co., Omaha, Neb.
SOD-R-BRAZE—Air acetylene torch and regulators. National Cylinder Gas Co., Chicago, Ill.
SOFTARC—Lime drawn electrode. Universal Power Corp., Cleveland, Ohio
SOFTCAST—Shielded arc electrode. Hobart Brothers Co., Troy, Ohio
SOFT IRONWELD—Coated iron electrode. Steel Sales Corp., Chicago, Ill.
SOFTWELD—Cast iron electrode. Lincoln Electric Co., Cleveland, Ohio
SOFTWELD—Welding flux. General Welding & Equipment Co., Boston, Mass.
SOL-A-DIE—Forming dies. Solar Aircraft Co., San Diego, Calif.
SOL-CON—Welding cable connector. Tweco Products, Inc., Wichita, Kans.
SOL-FLUX—Soldering flux. Klem Chemicals, Inc., Dearborn, Mich.
SOLAR—Stainless steel welding flux. Victor Equipment Co., San Francisco, Calif.
SOLDALOY—Copper alloys for soldering iron tips. P. R. Mallory & Co., Inc., Indianapolis, Ind.
SOLDERING FLUID—Soldering fluids. Johnson Manufacturing Co., Mount Vernon, Iowa
SOLDER-GUN—Fluxless soldering-magneto-strictive transducer. Alcar Instruments, Inc., New York 2, N. Y.
SOLDER-IT—Metallic compound to seal leaks in boilers, radiators, cracked cylinder heads, water jackets or engine blocks. York Engineering Co., Chicago, Ill.
SOLDER FLUX—Flux for repairing scored cylinders and for other soldering work. Smith Welding Equipment Corp., Minneapolis, Minn.
SOLDER-QUIK—Soldering tool. Stark Mfg. Co., Tuscaloosa, Ala.
SOLISTRAND—Terminals, connectors and crimping tools. Aircraft-Marine Prod. Co., Harrisburg, Pa.
SOMMER & ADAMS—Special machinery. The Federal Machine & Welder Co., Warren, Ohio
SONITE—Cover glass. Willson Products, Inc., Reading, Pa.
SONIZON—Ultrasonic thickness test instrument. Magnaflux Corp., Chicago, Ill.
SONOBOND—Unit for fluxless soldering. Aeroprojects Inc., West Chester, Pa.
SONOGEN—Ultrasonic power generator. Branson Ultrasonic Co., Stamford, Conn.
SOUTHWARK—Hydraulic and special machinery. Baldwin Southwark Division The Baldwin Locomotive Works, Philadelphia, Pa.
SOUTHWARK-TATE-EMERY—Testing machines. Baldwin-Lima-Hamilton Corp., Philadelphia, Pa.
SPAR-KING—Tool bit. Spartan Saw Works, Inc., Springfield, Mass.

SPAR-KUT—Metal band saw stock. Spartan Saw Works, Inc., Springfield, Mass.
SPAREX—Rust and scale remover. American Chemical & Flux Co., Brooklyn, N. Y.
SPARGROUND—Tool bits. Spartan Saw Works, Inc., Springfield, Mass.
SPARKETTE—Burner igniters. Eclipse Fuel Engineering Co., Rockford, Ill.
SPAT-R-PRUF—Spatter preventive. York Engineering Co., Chicago, Ill.
SPATTER BAN—Coated cover plates. Kimball Safety Products Co., Cleveland, Ohio
SPATTER PROOF—Plastic cover lens. Willson Products, Inc., Reading, Pa.
SPATTER-EX—Spatter preventive. Wayne Chemical Products Co., Detroit, Mich.
SPATTERNIX—Spatterproofing compound. Johnson Welding Equipment Co., Chicago, Ill.
SPATTER-NOX—Liquid material for brushing, or spraying for eliminating weld spatter sticking. Universal Welding Corp., Cleveland, Ohio
SPATTER-OFF—Paste for elimination of weld spatter sticking. Universal Welding Corp., Cleveland, Ohio
SPATTER-SHIELD—Weld spatter coating. Marquette Mfg. Co., Inc., Minneapolis, Minn.
SPATTERPROOF—Lamp to withstand hot feld spatter and rough handling. Radiant Lamp Corp., Newark, N. J.
SPECTI-GOGGLE—Spectacle type goggles. Eastern Equipment Co., Inc., Willow Grove, Pa.
SPEC-PRO-TECTOR—Welder's and industrial goggles. Eastern Equipment Co., Willow Grove, Pa.
SPECIAL WELDER—Leather welding gloves. E. J. Streichert, Chicago, Ill.
SPECIAL—Carbon tool steel. Firth-Sterling Steel & Carbide Co., McKeesport, Pa.
SPECIAL TITE-KOTE—Coated manganese nickel steel electrodes. Stulz-Sickels Co., Newark, N. J.
SPED CABLE—Welding cable connector. Yarco Distributors, Los Angeles, Calif.
SPEEDEMON—Iron-powder electrode. The Champion Rivet Co., Cleveland, Ohio
SPEEDEX—Powder-metal electrode. Metal & Thermit Corp., New York, N. Y.
SPEED KING—Cutting torch. Harris Calorific Co., Cleveland, Ohio
SPEED PRESS—Hydraulic arbor press. Studebaker Machine Co., Maywood, Ill.
SPEED ROD No. 44—Mild steel electrode. Champion Rivet Co., Cleveland, Ohio.
SPEED VISE—Drill press vises and machinists' vise. Cardinal Machine Co., Glendale, Calif.
SPEEDARC—Electric arc welding machines. Ideal Electric & Manufacturing Co., Mansfield, Ohio
SPEEDEX—Metal & Thermit Corp., N. Y., N. Y.
SPEE-D-COUPLER—Hydraulic coupler. Blackhawk Mfg. Co., Milwaukee, Wis.
SPEEDMATIC—Portable electric saws and sanders. The Porter-Cable Machine Co., Syracuse, N. Y.
SPEEDOMATIC—Automatic arc welding wire. Steel Sales Corp., Chicago, Ill.
SPEEDOX DO8—Carbon steel wire. Central Steel & Wire Co., Chicago, Ill.
SPEEDVICE—Hydraulic bench vises w/foot operator. Studebaker Machine Co., Maywood, Ill.
SPEEDWAY—Electric hoists. Wright Hoist Div. of American Chain & Cable Co., Inc., York, Pa.
SPEEDWAY—Portable electric drills and electric bench grinders. Speedway Mfg. Co., Cicero, Ill.
SPEED-WET—Waterproof coated abrasive. Behr-Manning Corp., Troy, N. Y.
SPEEDWITCH—Flexible shaft grinder. Charles L. Jarvis Co., Middletown, Conn.
SPEEDWITCH—Coated electrode. Eastern Equipment Corp., Willow Grove, Pa.
SPEEDY—Helmet attachment for clipping helmet to safety cap. The Fibre-Metal Products Co., Chester, Pa.
SPEEDY ATTACHMENT—Helmet attachment. Safety Div. of Davis Emergency Equip. Co., Newark, N. J.
SPEER—Carbon arc welding rods, welding plates and welding paste; welding generator and motor brushes. Speer Carbon Co., St. Marys, Pa.
SPEKALUMINITE—Anti-porosity compound. Special Chemicals Corp., Ossining, N. Y.
SPERRY—Resistance type flash butt welder. Sperry Products, Inc., Danbury, Conn.
SPIRABAND—Coated abrasive. Behr-Manning Corp., Troy, N. Y.
SPIRABELT—Coated abrasive. Behr-Manning Corp., Troy, N. Y.
SPIRATUBE—Cloth covered flexible tubing. Warner Bros. Co., Bridgeport, Conn.
SPITFIRE—Rosin disc. Abrasive Products, Inc., South Braintree, Mass.
SPLICIT—Automatic line splice for joining lines or cables. Burndy Engineering Co., New York, N. Y.
SPOTCHECK—Dye penetrant inspection material. Magnaflux Corp., Chicago, Ill.
SPOTLESS—Coated cover lens. Universal Power Corp., Cleveland, Ohio
SPRAY MIX—Coating refractory. Mexico Refractory Co., Mexico, Mo.
SPRAYWELDER—A powder metallizing unit. Wall Colmonoy Corp., Detroit, Mich.
SPREADARC—Automatic welding attachment. The Lincoln Electric Co., Cleveland, Ohio
SPRINGTITE—Electrode holder. McClary & Byers Equipment Co., Oakland, Calif.
SQUARE CAST—For oxy-acetylene welding cast iron. Hobart Bros. Co., Troy, Ohio
SQUARE D—Resistance welder control. Square D Co., Industrial Controller Div., Milwaukee, Wis.
SQUEEZE-GRIP—Carbon dioxide portble fire extinguishers (discharge valve). C-O-Two Fire Equipment Co., Newark, N. J.
STA-SET—Finger guards. American Optical Co., Southbridge, Mass.
STA-WARM—Metal melting pot and kettles. Sta-Warm Electrical Co., Ravenna, Ohio
STABLE-ARC—Mild steel electrodes. Lincoln Electric Co., Cleveland, Ohio
STACKPOLE—Arc welding and brazing carbons, welding tips, generator brushes, welding paste, etc. Stackpole Carbon Co., St. Marys, Pa.
STAC-VENT—Goggles. Watchmoket Optical Co., Inc., Providence, Rhode Island.
STAIDARC—Modified coated electrode. Universal Welding Co., Cleveland, Ohio
STAIN-CRAFT—Electrodes for welding chrome and nickel stainless steel and chromium-iron. Allied Weld-Craft, Inc., Indianapolis, Ind.
STAIN-ROD—Stainless steel electrodes. Marquette Manufacturing Co., Inc., Minneapolis, Minn.
STAINARC—Stainless steel welding rods and electrodes. Universal Power Corp., Cleveland, Ohio
STAINITE—Tin cleaner. Turco Products, Inc., Los Angeles, Calif.
STAINKOTE—Stainless steel electrodes. Central Steel and Wire Co., Chicago, Ill.
STAINLEND—Stainless steel electrodes for AC-DC welding. Arcos Corp., Philadelphia, Pa.
STAINLESS STEEL 48—Liquid soldering flux. Remont Mfg. Co., Lombard, Ill.
No. 6 STAINLESS—Steel soldering flux. Farrelloy Co., Philadelphia, Pa.
ST. PIERRE—Combination hammer, chisel and brush for use in cleaning welds. St. Pierre Chain Corp., Worcester, Mass.
STAINALOY—Resistance welding electrodes. Acme Electric Welder Co., Los Angeles, Calif.
STAINOX—Treated, bare rod. Central Steel and Wire Co., Chicago, Ill.
STAINWELD—Stainless steel electrodes. Lincoln Electric Co., Cleveland, Ohio
STANDARD—Screw geared hoist. Chisholm-Moore Hoist Corp., Tonawanda, N. Y.
STANDARD—Water hardening tool steel. Henry Disston & Sons, Inc., Philadelphia, Pa.
STANDARD—Power hack-saws. Peerless Machine Co., Racine, Wis.
STANDARD—Solder paddles. Remont Mfg. Co., Lombard, Ill.
STANDARD—Welding positioner. Standard Machinery Co., Providence, R. I.
STANDARD—Welding rods and electrodes. Standard Steel and Wire Co., Bolivar, Pa.
STANDARD—Electric welded carbon and stainless steel tubing. The Standard Tube Co., Detroit, Mich.
STANDARD—Soldering handpiece. Wassco Electric Products Corp., Joliet, Ill.
STANDARDAIRE—Compressor. Read Standard Corp., New York, N. Y.
STANDARD PATTERN—Bench and floor grinders. Clizbe Bros., Mfg. Co., Plymouth, Ind.
STANLEY—Portable electric grinders, sanders, bench grinders, drills and motor driven shears. Stanley Electric Tool Div., The Stanley Works, New Britain, Conn.
STANWELD—Tubing. The Standard Tube Co., Detroit, Mich.
STAR—Hack saw blades and frames, flexible back metal cutting band saws. Clemson Bros., Inc., Middletown, N. Y.
STAR—Plow points. Star Manufacturing Co., Division of Illinois Iron & Bolt Co., Carpentersville, Ill.
STAR—Wire wheel brush sections. Anderson Corp., Worcester, Mass.
STAR J—Metal-cutting tools. Haynes Stellite Co., Kokomo, Ind.
STAR-JET—Oxyacetylene torch. Marquette Mfg. Co., Inc., Minneapolis, Minn.
STAR WELDER—Spot and butt welders. Ames Spot Welder Co., Inc., Brooklyn, N. Y.
STAR-MO—High-speed steel bits. Firth-Sterling Steel & Carbide Corp., Pittsburgh, Pa.
SARRETT—Hack saw, hand saw blades and steel tapes. L. S. Starrett Co., Athol, Mass.
STASAFE—Protective clothing, face shields. Standard Safety Equipment Co., Chicago, Ill.
STASAFE HAIRGARD—Cap fitted with a transparent acetate visor. Standard Safety Equipment Co. Chicago, Ill.
STATIFLUX—Electrostatic inspection equipment. Magnaflux Corp., Chicago, Ill.
STATOSEC—Shape cutting machine. The Burdett Oxygen Co., Cleveland, Ohio
STAY-PUT—Clamps, hose. J. N. Feuver Co., Inc., Detroit, Mich.
STEAM-AERO—Steam cleaning compound. Turco Products, Inc., Los Angeles, Calif.
STEAM-OFF—Steam cleaning compound. Turco Products, Inc., Los Angeles, Calif.
STEAMEZE—Steam cleaning compound. Turco Products, Inc., Los Angeles, Calif.
STEAMFAS—Steam cleaning compound. Turco Products, Inc., Los Angeles, Calif.
STEEL CITY—Portable hardness tester and other testing machines. Steel City Testing Laboratory, Detroit, Mich.
STEEL GRIP—Protective clothing; gloves; mittens, aprons, spats and leggings made with steel reinforcing. Industrial Gloves Co., Danville, Ill.
STEEL HANDLER—All leather gloves. Advance Glove Co., Detroit, Mich.
STEEL-CLAD—Rotary wire wheel brush. The Milwaukee Brush Mfg. Co., Milwaukee, Wis.
STEEL-CLAD—Pneumatic grinders and wire brush machines. Chicago Pneumatic Tool Co., New York, N. Y.
STEELARC—High speed electrode. All-State Welding Alloys Co., White Plains, N. Y.
STEELETTS—Steel grit abrasive. Wheelabrator Corp., Mishawaka, Ind.
STEELGARD—Rust preventative. Haas Miller Corp., Philadelphia, Pa.
STEELKOTE—Coated electrodes. Central Steel and Wire Co., Chicago, Ill.
STEELRITE—Crayon for marking steel. Whittaker, Clark & Daniels, Inc., New York, N. Y.
STEELWELD—Shears & presses. The Cleveland Crane & Engineering Co., Wickliffe, Ohio
STEFFAN—Blow torch. National Welding Equip. Co., San Francisco, Cal.
STEINER—Drying ovens for coated electrodes. Steiner-Ives Co., Newark, N. J.
STELCO—Welding tips. Dockson Corp., Detroit, Mich.
STERILSHIELD—Fume collector. The Baker Co., Inc., Maplewood, Mo.
STERLING—Dredge chain. The Cleveland Chain & Mfg. Co., Cleveland, Ohio
STERLING—Flints for torch lighters. Flint Products Co., Brooklyn, N. Y.
STERLING—Rock salt and salt tablet dispensers. International Salt Co., Inc., Scranton, Pa.
STERLING—Steel. Firth-Sterling Steel and Carbide Corp., McKeesport, Pa.
STERLING—Spot, seam, butt, gun and arc welders. Sterling Utilities Co., Inc., Brooklyn, N. Y.
STERLING STAINLESS—Stainless steels. Firth-Sterling, Inc., Pittsburgh, Pa.
STERBON—Grinding wheel. Sterling Grinding Wheel Div. The Cleveland Quarries Co., Tiffin, Ohio
STERLITH—Grinding wheel. Sterling Grinding Wheel Div., The Cleveland Quarries Co., Tiffin, Ohio
STILLSON—Pipe wrench. Walworth Co., New York, N. Y.
STOODITE—Hardfacing rods and electrodes. Stoody Co., Whittier, Calif.
STOODY—Hardfacing alloys in rod electrode and coiled-wire forms. Stoody Co., Whittier, Calif.
STOODY SELF-HARDENING—Hardfacing rods and electrodes. Stoody Co., Whittier, Calif.
STOP-FIRE—Fire extinguishers. Stop-Fire, Inc., Brooklyn, N. Y.
STOW—Flexible shaft machines; flexible shaft power drives and flexible shaft remote controls for valves, etc. Stow Manufacturing Co., Binghamton, N. Y.
STRAIGHT HOLDERS—Holders. S-M-S Corp., Detroit, Mich.
STRAITFLO—Line strainer. Hays Mfg. Co., Erie, Pa.
STRAND—Flexible shaft machines. N. A. Strand Div., Franklin Balmar Corp., Baltimore, Md.
STRAND FLEX—Flexible shaft machines. N. A. Strand Div., Franklin Balmar Corp., Baltimore, Md.
STRATE-LINE—Cable connectors, plugs and receptacles. The Pyle-National Co., Chicago, Ill.
STRAUSS—Safety equipment. Strauss Co., Pittsburgh, Pa.
STREAMLINE—Steel tape rule. Master Rule Mfg. Co., Middletown, N. Y.
STREAMLINE—Bronze fitting and copper pipe. Muelleh Brass Co., Port Huron, Mich.
STREAMLINE—Electrode holders. Wagner Manufacturing Co., Inc., Jackson, Mo.
STREAMLINE JUNIOR—200 amp. gas engine driven arc welder. Hobart Bros. Co., Troy, Ohio
STREAMLINER—Helmets and handshields. Metro Mfg. Co., Long Island City, N. Y.
STEAM-POWER—Portable air tools. Buckeye Tools Corp., Dayton, Ohio
STEEL SHOT—Blast-cleaning and peening abrasive. Wheelabrator Corp., Mishawaka, Ind.
STREICHERT—Gloves, aprons, coats, capes and sleeves. E. J. Streichert, Chicago, Ill.
STRIKEASY—Iron-powder electrode. General Electric Co., Schenectady, N. Y.
STRIPTEX—Paint, lacquer and enamel stripper. Diversey Corp., Chicago, Ill.
STROCO—Crater eliminator. Flux-plated welding Electrodes. Carl Strobel Corp., Los Angeles, Calif.
STRONGCAST—Steel electrode. Hobart Brothers Co., Troy, Ohio
STRYCO—Resistance welders, cranes and hoists, trolleys, tracks and craneways and resistance welding transformers. Stryco Mfg. Co., San Francisco, Calif.
STUBBY—Electrode holders. Martin Wells, Inc., Los Angeles, Calif.
STURDI-BILT—Wire cup power brushes. The Milwaukee Brush Mfg. Co., Milwaukee, Wis.
STURDY-WEAVE—Asbestos clothing, gloves, leggings, aprons, etc. The Safety Equipment Service Co., Cleveland, Ohio
STYLE 10—Black oxyacetylene hose. Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
STYLE 20—Red oxyacetylene hose. Republic Rubber Div., Lee Rubber & Tire Corp., Youngstown, Ohio
STYL-IZE—Safety spectacles. United States Safety Service Co., Kansas City, Mo.
SULFLO—Cutting oils and solder fluxes. Sulflo, Inc., Elizabeth, N. J.
SUN-RAY—Acetylene. Atlas Acetylene Co., Kearney, N. J.
SUNBEAM STEWART—Industrial heat treating furnaces, galvanizing, stress relieving and pot furnaces. Sunbeam Stewart Ind. Furnace Div. of Sunbeam Corp., Chicago, Ill.
SUNSTRAND—Wire rope and strand. Sunbury Wire Rope Mfg. Co., Sunbury, Pa.

SUPER—Drill grinding attachment. A. D. McBurney, Los Angeles, Calif.
SUPER—Welding torches. Modren Engineering Co., St. Louis, Mo.
SUPERAIRCO—Oxygen & Acetylene generators and manifolds. Superior Air Products Co., Newark, N. J.
SUPER ALLOY—Hardfacing alloy. Resisto-Loy Co., Grand Rapids, Mich.
SUPER ARMOR PLATE—Hardened lenses. American Optical Co., Southbridge, Mass.
SUPER DYNAMITE—Hose. Mulconroy Co., Philadelphia, Pa.
SUPER G—Paste type solders. Fusion Engineering, Cleveland, Ohio
SUPER HI-MO—Steel, Firth-Sterling Inc., Pittsburgh, Pa.
SUPER MICRO-TOXISOL—Respirator. American Optical Co., Southbridge, Mass.
SUPER NICKEL-CLAD STEEL—Clad steel nickel bonded to a base plate of steel. Lukens Steel Co., Coatesville, Pa.
SUPER-SAFETY—Lenses for grinding and chipping goggles. Chicago Eye Shield Co., Chicago, Ill.
SUPER SERVICE—Welding power cables. General Cable Corp., New York, N. Y.
SUPER STAR-MO—Steel of tungsten-moly. Firth-Sterling Steel & Carbide Co., McKeesport, Pa.
SUPER SIGHT—Light magnifiers. The Boyer Campbell Co., Detroit, Mich.
SUPER SPEED—Tools. Tri-Clover Machine Co., Kenosha, Wis.
SUPER T—Paste type solders. Fusion Engineering, Cleveland, Ohio
SUPER VISIBILITY—Protective glass for electric welding. Lincoln Electric Co., Cleveland, Ohio
SUPER-CLAMPS—Clamps. The Cincinnati Tool Co., Cincinnati, Ohio
SUPERCYCLE—Weld cleaning tools. Chicago Pneumatic Tool Co., New York, N. Y.
SUPER-DIFOLD—Buffs. Divine Brothers Co., Utica, N. Y.
SUPER-DREDNAUT—Goggles and lenses. Safety Equipment Service Co., Cleveland, Ohio
SUPER-E—Paste type solders. Fusion Engineering, Cleveland, Ohio
SUPER-EBONITE—Hose. Quaker Rubber Co., Philadelphia, Pa.
SUPERETTE—Electrode holders. Wagner Manufacturing Co., Inc., Jackson, Mo.
SUPEREX—Capacitors. Solar Manufacturing Corp., North Bergen, N. J.
SUPERECTOR—Heavy duty ratchet wrenches. J. H. Williams & Co., Buffalo, N. Y.
SUPERFLEX—Thermostat bimetal. American Silver Co., Inc., Flushing, N. Y.
SUPERFLEX—Kickless dual-conductor welding cables. Uniflex Cable Co., Detroit, Mich.
SUPERGARD—Finger protection. Industrial Gloves Co., Danville, Ill.
SUPERGARD—Safety hats and caps. Fibre-Metal Products Co., Chester, Pa.
SUPERGOGGLE—Goggles for welding and cutting. Jackson Products, Inc., Warren, Mich.
SUPERIOR—Testing machines. Steel City Testing Machines, Inc., Detroit, Mich.
SUPERIOR—Welding and cutting torches, accessories, supplies, acetylene generators, etc. Superior Oxy-Acetylene Machine Co., Hamilton, Ohio
SUPERIOR—Chain hoists. David Round & Son, Cleveland, Ohio
SUPERIOR—Arc welding hand shield. Welding Engineering Co., Milwaukee, Wis.
SUPERIOR—Cylinder valves. Superior Valve & Fittings Co., Pittsburgh, Pa.
SUPERIOR—Welding, soldering and brazing fluxes. Superior Flux Co., Cleveland, Ohio
SUPERIOR—Compressed gases. Superior Industrial Gas Corp., Astoria, N. Y.
SUPER-JET—Heavy duty oxyacetylene torch. Marquette Mfg. Co., Inc., Minneapolis, Minn.
SUPERJUSTABLE—Adjustable wrenches. J. H. Williams & Co., Buffalo, N. Y.
SUPERMEL—Insulation for electrode holders. Tweco Products Co., Wichita, Kans.
SUPERPHONE—Loudspeaker diving telephone for underwater cutting and welding. Craftsweld Equipment Corp., Long Island City, N. Y.
SUPERRENCH—Wrenches. J. H. Williams & Co., Buffalo, N. Y.
SUPER SERVICE—Neoprene covered heavy-duty portable cable. General Cable Corp., New York, N. Y.
SUPERSHEATH—Insulated neoprene jacketed cable. General Cable Corp., New York, N. Y.
SUPERSOCKET—Detachable socket wrenches. J. H. Williams & Co., Buffalo, N. Y.
SUPER-SOLDER—Solder. Fusion Engineering Co., Cleveland, Ohio
SUPER-TOUGH—Heat-treated goggle lenses. Willson Products, Inc., Reading, Pa.
SUPERTROL—Metal cleaner. Turco Products, Inc., Los Angeles, Calif.
SUPER-VENT—Chemical dust masks. American Optical Co., Southbridge, Mass.
SUPERWELD—Coated electrodes. Steel Sales Corp., Chicago, Ill.
SUPER-X—Welding and cutting torches. Modern Engineering Co., Inc., St. Louis, Mo.
SUPRALOY—Hardfacing electrodes. Industrial Overlay Metals, Inc., Eaton, Ohio
SUPREME—All-purpose Neoprene belting. Victor Balata & Textile Belding Co., New York, N. Y.
SUREGRIP—Electrode holders. Martin Wells, Inc., Los Angeles, Calif.
SUREWELD—Electrodes, arc welders, spot welders. National Cylinder Gas Co., Chicago, Ill.
SURFACE—All types of heat treat furnaces. Surface Combustion Co., Toledo, Ohio
SURFACEWELD—Hardfacing powder. Lincoln Electric Co., Cleveland, Ohio
SURFALLOY—Welding alloys. Eutectic Welding Alloys Corp., Flushing, N. Y.
SUVENEER—Copper, nickel, monel and stainless clad steel. Superior Steel Corp., Carnegie, Pa.
SVEA—Swedish iron welding wire. Swedish Iron and Steel Corp., New York, N. Y.
SWEAT-ON—Fluxes or alloys for joining materials. Eutectic Welding Alloys Co., Flushing, N. Y.
SWEDG-ON—Cable lugs and sleeves. Wagner Manufacturing Co., Inc., Jackson, Mo.
SWEAT-ON-PASTE—Hardfacing paste. Wall Colmonoy Corp., Detroit, Mich.
SWEDOX—Welding rods, electrodes and supplies. Made by Central Steel & Wire Co., Chicago, Ill.
SWETITE—Paste solder. Alpha Metals, Inc., Jersey City, N. J.
SWIFT—Resistance welding equipment. Swift Electric Welder Co., Detroit, Mich.
SWIFT-O-MATIC—Air-hydraulic flash welder. Swift Electric Welder Co., Detroit, Mich.
SWIFTWELD—Mild steel electrode. Lincoln Electric Co., Cleveland, Ohio
SWIRT—Emulsion cleaning solvent. Phillips Manufacturing Co., Chicago, Ill.
SWISS—Solders, solder paddles and fluxes, tinning compound, wire wheels and brushes. Swiss Laboratory, Cleveland, Ohio
SYMBOL HAMMERS—Weldor's identification hammer. Atlas Welding Accessories, Inc., Ferndale, Mich.
SYNCHROMATIC—Flash welder. Thomson Electric Welder Co., Lynn, Mass.
SYNCRO-BREAK—Magnetic welder contactor. Square D Co., Industrial Controller Div., Milwaukee, Wis.
SYNCRO-TIMER—Precision timer. National Time & Signal Corp., Detroit, Mich.
SYNTHITE—Insulating varnish. John C. Dolph Co., Newark, N. J.
SYNTRON—Chipping and scaling hammers, electric grinders, portable electric drills, portable gas-electric power plants. Syntron Co., Homer City, Pa.
SYRALL—Clamps, tool handles, ladles, pots and kettles, circular and hole saws, cylinder trucks. Syracuse Alloy Metals, Syracuse, N. Y.
SYTE-AYDE—Illumination kit. General Scientific Equipment Co., Philadelphia, Pa.

T

TD—Coated electrode. Hollup Corp., Division of National Cylinder Gas Co., Chicago, Ill.
T-I—Constructural alloy steel. U. S. Steel Corp., Pittsburgh, Pa.
T-W—Resistance and automatic arc welding machines. The Taylor-Winfield Corp., Warren, Ohio
T-J CO.—Preheating annealing and stress relieving furnaces. Tate, Jones & Co., Leetsdale, Pa.
TW—Seamless gas cylinders. Taylor-Wharton Iron and Steel Co., Eaton, Pa.
TAG—Air pressure and resistance welding regulators. Weston Elec. Instrument Co., Newark, N. J.
TAKE-ABOUT—Portable electric hand sander. Porter-Cable Machine Co., Syracuse, N. Y.
TAM—Alloys, refractories and cement. Titanium Alloy Manufacturing Co., Niagara Falls, N. Y.
TANARC—Electrode coating mineral. Foote Mineral Co., Philadelphia, Pa.
TANDEM—Timer control unit. Industrial Timer Corporation, Newark, N. J.
TAN DEVIL—Mild steel electrode. Champion Rivet Co., Cleveland, Ohio
TANK-WELL—Wrenches for acetylene tanks. Chicago Hardware Foundry Co., The, North Chicago, Ill.
TANTUNG—Alloy. Also welding rod and cutting tool taps. Fansteel Metallurgical Corp., North Chicago, Ill.
TANTUNG—Cast alloy tools, blanks and precision castings. Vascoloy-Ramet Corp., Waukegan, Ill.
TAPER-LOK—Cable connector. Erico Products, Inc., Cleveland, Ohio
TAPGUN—Portable tapgun. Black & Decker Mfg. Co., Towson, Md.
TAYLOR—Spiral and straight-seam welded pipes, forged fittings. Taylor Forge and Pipe Works, Chicago, Ill.
TAYLOR-FORGE—Electric fusion welded pipe, forged pipe fittings, pipe flanges for welding, welding necks and flanges for tanks and other forged products. Taylor Forge and Pipe Works, Chicago, Ill.
TAYLOR-HALL—Spot welders. The Federal Machine Welder Co., Warren, Ohio
TAYLOR-MADE—Chain. S. G. Taylor Chain Co., Hammond, Ind.
TAYLOR-WINFIELD—Resistance spot, projection, seam and flash-butt welding machines. The Taylor-Winfield Corp., Warren, Ohio
TEC—Tig welding torch with transparent cup. Tec Torch Co., Inc., Carlstadt, N. J.
TECO—Under water arc-oxygen torch and under water gas torch. The Thompson Engineering Co., Grand Rapids, Mich.
TEMCO—Electric furnaces. Thermo Electric Manufacturing Co., Dubuque, Iowa
TEMDCO—Hardfacing electrodes. The MacDonald Co., Inc., Reno, Nev.
TEMDCOMANG—Nickel manganese electrode. The MacDonald Co., Inc., Reno, Nev.
TEMDCOPASTE—Hardfacing paste. The MacDonald Co., Inc., Reno, Nev.
TEMP-ALARM—Temperature sensitive paint to signal overheating. Tempil Corp., New York, N. Y.
TEMPIL PELLETS—Temperature-indicating pellets. Tempil Corp., New York, N. Y.
TEMPILAQ—Temperature indicating paint. Tempil Corp., New York, N. Y.
TEMPILSTIKS—Temperature indicating crayon. Tempil Corp., New York, N. Y.
TEMPRITE—Refrigeration products. Temprite Products Corp., Detroit, Mich.
TENSILEND—Electrodes for welding high carbon, low alloy, high tensile and free machining steels. Arcos Corp., Philadelphia, Pa.
TENS-O-MATIC—Automatic welding wire. Allied Weld-Craft, Inc., Indianapolis, Ind.
TENSOX—Carbon steel. Central Steel & Wire Co., Chicago, Ill.
TEST-WELL—Welding test plate. Weld Rod Div., North Chicago, Ill.
TEX-DRIVE—Grinders and buffers. The Hisey Wolfe Machine Co., Cincinnati, Ohio
THEMAC—Portable electric grinders. The McGonegal Mfg. Co., E. Rutherford, N. J.
THERMACOTE—Spatter-proof cover lenses. Thermacote Co., Los Angeles, Calif.
THERMALLOY 4—Manual hardfacing rods and electrodes. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
THERMIT—Thermit materials and supplies. Metal & Thermit Corp., New York, N. Y.
THERMO—Tip cleaners, aligning clamps, torch liter and plastic cover lens. Thermacote Co., Inc., Los Angeles, Calif.
THERMO-GRIP—Brazing outfits, incandescent carbon. Ideal Industries, Inc., Sycamore, Ill.
THERMO-LO BLUE—Welding cast iron flux. Farrelloy Co., Philadelphia, Pa.
THERMO-LO PINK—Brazing cast iron, steel, bronze steel flux. Farrelloy Co., Philadelphia, Pa.
THER-MONIC—Induction, dielectric and corebaking equipment. Induction Heating Corp., Brooklyn, N. Y.
THERMO-TIP—Resistance soldering units. Ideal Industries, Inc., Sycamore, Ill.
THERMOTRODE—Heating electrodes. Eutectic Welding Alloys Corp., Flushing, N. Y.
THE WELDER—Leather welding gloves. E. J. Streichert, Chicago, Ill.
THOMAS—Metal disintegrator and electrodes. Clinton Machine Co., Warner Div., Detroit, Mich.
THOM McAN—Safety shoes. Thom McAn Safety Shoe Div. of Melville Shoe Corp., New York, N. Y.
THOMPSON—Torch unit for underwater arc cutting. Thompson Engineering Co., Grand Rapids, Mich.
THOMSON OBI—Welding presses. Thomson Electric Welder Co., Lynn, Mass.
THOMSON—Spot butt seam, flash, multimatic spot, fabric welders, and other types of resistance welding machines. Thomson Electric Welder Co., Lynn, Mass.
THOR—Portable electric and pneumatic tools. Thor Power Tool Co., Aurora, Ill.
THOR—Portable electric and pneumatic tools. Independent Pneumatic Tool Co., Chicago, Ill.
THREADWELL—Twist drills. The Threadwell Tap & Die Co., Greenfield, Mass.
THREDOLETS—Forged pipe welding fittings. Bonney Forge and Tool Works, Allentown, Pa.
3M—Coated abrasives, abrasives and coatings. Minnesota Mining & Mfg. Co., St. Paul, Minn.
THREE-M-ITE—Abrasive cloth. Minnesota Mining and Mfg. Co., St. Paul, Minn.
TIGER—Welding and brazing flux. Columbia Chemical Products Co., Detroit, Mich.
TIGER BRAND—Wire rope. Tennessee Cable, Iron and Railroad Co., Birmingham, Ala.
TIGERWELD—Wire rope. American Steel and Wire Co., Rockefeller Bldg., Cleveland, Ohio
TILLMAN—Leather gloves, mittens, garments, and supplies. John Tillman and Co., Long Beach, Calif.
TIME-SAVER—Torch lighter. Ellison Mfg., Mediapalis, Iowa
TINEZY—Tinning compounds. Farrelloy Co., Philadelphia, Pa.
TIN-EZY—Soldering compound and galvanizing compound. Johnson Mfg. Co., Inc., Mount Vernon, Iowa
TINKOTE—Tinning compound. Tinkote Co., Revere, Mass.
TINNENE COMPOUND—Soldering flux (powder). Remont Mfg. Co., Lombard, Ill.
TINOL—Solder in paste form. American Solder and Flux Co., Philadelphia, Pa.
TINS-TYTER—Soldering flux. Remont Mfg. Co., Lombard, Ill.
TINWELD—Solder—paste flux combination. Eutectic Welding Alloys Corp., Flushing, N. Y.
TIP CLEEN—Tip cleaning compound. Wolfe-Kote Co., Sheboygan, Wis.
TIPALOY—Resistance welding electrodes. Tipaloy, Inc., Detroit, Mich.
TIPIT—Chain sling. Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Div., Muskegon, Mich.
TIP-O-LITER—Combination tip cleaner set and torch liter. Thermacote Co., Los Angeles, Calif.
TIPPY—Resistance welding electrodes. Tipaloy, Inc., Detroit, Mich.
TIREX—Welding and power cables. Simplex Wire & Cable Co., Cambridge, Mass.
TISCO—Manganese weld rod. Taylor-Wharton Iron & Steel Co., Cincinnati, Ohio

TITAN—Electric hoist. Detroit Hoist & Machine Co., Detroit, Mich.
TITAN—Deoxidized bronge alloy welding rods and other products. Titan Metal Manufacturing Co., Bellefonte, Pa.
TITAN-TOGGLE—Clamp. Detroit Stamping Co., Detroit, Mich.
TITANALBA—Titanium dioxide. Foote Mineral Co., Philadelphia, Pa.
TITANOX—Electrode coating material. Titanium Alloy Mfg. Div., National Lead Co., New York, N. Y.
TITE-KOTE—Nickel manganese steel electrodes. Stulz-Sickles Co., Newark, N. J.
TNEL—A-c arc welding machines and spot welders. Tnei Manufacturing Co., Hornell, N. Y.
TOBIN BRONZE—Copper, zinc, tin alloy. The American Brass Co., Waterbury, Conn.
TOCCO—Induction heating equipment. The Ohio Crankshaft Co., Tocco Div., Cleveland, Ohio
TOLMAN—Welding and cutting torches, regulators, accessories and supplies, oxyacetylene welding and cutting outfits, electrode holders. Tolman Mfg. Co., Boston, Mass.
TOMAHAWK—Weld chipping hammer. Atlas Welding Accessories, Inc., Ferndale, Mich.
TOMBAC—Flux for brazing alloy steels and copper. Morey Flux and Chemical Co., Wilmington, Del.
TONCAN IRON—Iron alloy. Republic Steel Corp., Cleveland, Ohio
TONG TEST—Clamp-on type ammeter (a-c & d-c). Columbia Electric Mfg. Co., Cleveland, Ohio
TOOL ARC—Coated electrodes for tools. Universal Welder Corp., Cleveland, Ohio
TOOL-ARC—Tool and die electrodes. Alloy Rods Co., York, Pa.
TOOL-CRAFT—Tool steel welding electrodes. Allied Weld-Craft, Inc., Indianapolis, Ind.
TOOL-N-DIE—Electrode for welding oil hardening, water hardening, air, hot work and high speed steels. Hobart Bros. Co., Troy, Ohio
TOOLFACE—Welding rods and electrodes. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
TOOLFACER—Alloy tool steel welding electrode. Hobart Brothers Co., Troy, Ohio
TOOLWELD—Hardfacing electrode. The Lincoln Electric Co., Cleveland, Ohio
TOPPER—Steel tape rule. Master Rule Mfg. Co., Middletown, N. Y.
TORCHKINK—Weldors gloves. Advance Glove Co., Detroit, Mich.
TORCHETTE—Burner igniter. Eclipse Fuel Engineering Co., Rockford, Ill.
TORCH-O-MATIC—Soldering, brazing, preheating torch. Velocity Power Tool Co., Pittsburgh, Pa.
TORCHWELD—Oxyacetylene welding and cutting equipment. Torchweld Equipment Division, National Cylinder Gas Co., Chicago, Ill.
TORCO—Vises. Wilton Tool Mfg. Co., Chicago, Ill.
TORENT—Power spray washer. Phillips Manufacturing Co., Chicago, Ill.
TORIT—Dust collectors and exhausters. Torit Manufacturing Co., St. Paul, Minn.
TORKFLASH—Tension wrench. Blackhawk Mfg. Co., Milwaukee, Wis.
TOR-KON-VERTOR—Flame cutter. Superior Welding and Machine Co., Bartlesville, Okla.
TOTALUME—Rust preventive aluminum paint. The Wilbur & Williams Co., Boston, Mass.
TOTRUST—Rust preventive paint. The Wilbur & Williams Co., Boston, Mass.
TOUGH DEVIL—Nickel manganese electrode. The Champion Rivet Co., Cleveland, Ohio
TOURNAROPE—Wire rope. R. G. LeTourneau, Inc., Peoria, Ill.
TRACTOR-STRIP—Spatter preventive. Marquette Mfg. Co., Inc., Minneapolis, Minn.
TRACTRED—Turning rolls. Aronson Machine Co., Arcade, N. Y.
TRAKALOY—Hardfacing impact electrodes. Bergstrom Alloys Corp., Reno, Nev.
TRAKALOY—Hardfacing rods. Industrial Overlay Metals, Inc., Eaton, Ohio
TRAMBEAM—Overhead trolley systems. Whiting Corp., Harvey, Ill.
TRANS-ARC—Transformer-type arc welder. American Transformer Co., Newark, N. J.
TRANSITE—Asbestos-cement pipe. Johns-Manville, New York, N. Y.
TRANSPO—Metal and parts cleaner. Turco Products, Inc., Los Angeles, Calif.
TRANSWALL—Sound barrier curtain. Bemis Bro. Bag Corp., Minneapolis, Minn.
TRAVEL-CUT—Wire straightening and cutting machine. The Lewis Machine Co., Cleveland, Ohio
TRAY-LIFT—Eleectric crane. Harnischfeger Corp., Milwaukee, Wis.
TRAVOGRAPH—Oxyacetylene cutting machine. Air Reduction Sales Co., New York, N. Y.
TRAVALOY—Hardfacing alloys. Industrial Overlay Metals, Eaton, Ohio
TREASURE CHEST—Wrench set. Blackhawk Mfg. Co., Milwaukee, Wis.
TRENTWELD—Stainless steel tubing. Trent Tube Co., Div., Crucible Steel Co., Pittsburgh, East Troy, Wis.
TRIAD—Pipe thread stock and dies. Nye Tool Co., Chicago, Ill.
TRIBLOC—Chain hoists. Ford Chain Block, Div. of Amer. Chain & Cable Co., Inc., York, Pa.
TRICLENED—Metal degreasing solvent. E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
"TRI-PHASE"—Resistance welder. The Taylor-Winfield Corp., Warren, Ohio
TRI-FLUX—Soldering flux. Wolfe-Kote Co., Sheboygan, Wis.
TRI-FLUX No. 3, 5, 20—Flux. Wolfe-Kote Co., Sheboygan, Wis.
TRI-LINE—Welding hose. Burdett Oxygen Co., Cleveland, Ohio
TRI-METAL—Carbide tool and solder shims. D. E. Makepeace Co., Attleboro, Mass.
TRIMO—Pipe wrenches, tube cutters and strap wrenches. Trimont Manufacturing Co., Roxbury, Mass.
TRIMOPATTERN—Pipe cutting wheels, etc. Collmer Bros., South Bend, Ind.
TRINDL—A-c arc welders, torches, helmets, welding rods and accessories. Trindl Products, Ltd., Chicago, Ill.
TRIO-LITE—Lighters. Burdett Oxygen Co., Cleveland, Ohio
TRI-PHASE—Resistance welder. Taylor-Winfield Corp., Warren, Ohio
TRIPL-FLINT—Torch lighter. Modern Engineering Co., St. Louis, Mo.
TRIPLE-DUTY LENSES—Spatterproof cover lenses. Thermacote Co., Los Angeles, Calif.
TRIPLE-LOK—Tube fittings. The Parker Appliance Co., Cleveland, Ohio
TRIPLEX—Pipe threading stock. Nye Tool Co., Chicago, Ill.
TRIPLETT & BARTON—X-ray and ultrasonic inspection equipment and numbering machines. Triplett & Barton, Inc., Burbank, Calif.
TRIPLE "A"—Safety signs. The Acromark Co., Elizabeth, N. J.
TRIPLOC—Cable connectors, plugs and receptacles. Pyle-National Co., Chicago, Ill.
TRIUMPH—Chains. Bridgeport Chain & Mfg. Co., The, Bridgeport, Conn.
TRODALOY—Electrode material for resistance welding. General Electric Co., patents by Ampco Metal, Inc., Milwaukee, Wis.; Electroloy Co., New York City; P. R. Mallory Co., Indianapolis, Ind.; Welding Sales and Engineering Co., Detroit, Mich.
TROJAN—Mono rail tractor. Detroit Hoist and Machine Co., Detroit, Mich.
TROXIDE—Dry acid pickling compound. Waverly Petroleum Products Co., Philadelphia, Pa.
TRU-EDGE—Contour shear. Baker Bros., Inc., Toledo, Ohio
TRU-FLUX—Soldering syrup. American Chemical Process Co., Long Island City, N. Y.
TRU-LAY—Preformed wire rope. American Cable Div. of American Chain & Cable Co., Inc., Wilkes-Barre, Pa.
TRUK-A-BOUT—Cylinder truck. C. W. Young Mfg. Corp., Syracuse, N. Y.
TRUMARK—Protractors. Tru-line Corp., Santa Monica, Calif.
TRU-MATIC—Grinding wheels. Tru-Matic Products Co., Wharton, N. J.
TRUMBULL—Switches and industrial control equipment. The Trumbull Electric Manufacturing Co., Plainville, Conn.
TRU-OHM—Ceramic welding nozzles. Tru-Ohm Products—Model Engineering & Mfg., Inc., Huntington, Ind.
TRI-2-RIP—Leather palm welding gloves. Montpelier Glove Co., Montpelier, Ind.
TUBE BORIUM—Hardfacing rods and electrodes. Stoody Co., Whittier, Calif.
TUBE STOODITE—Hardfacing rods. Stoody Co., Whittier, Calif.
TUBE-O-FLUX—Silver brazing alloy kits. American Products Corp., Chicago, Ill.
TUBE-TUNGSITE—Coarse granule carbide rod. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
TUBE-TURN—Welding fittings and flanges. Tube Turns, Inc., Louisville, Ky.
TUC-AWAY—Spectacle type safety goggles. Watchemoket Optical Co., Inc., Providence, R. I.
TUC-OVER—Safety goggles. Watchemoket Optical Co., Inc., Providence, R. I.
TUF-COTE—Lens coating against pitting. Bausch & Lomb Optical Co., Rochester, N. Y.
TUF-COTE—Welding and grinding lenses. Wallace Optical Co., Inc., Detroit, Mich.
TUF-CUT—Grinding wheels. Precision Grinding Wheel Co., Inc., Philadelphia, Pa.
TUFANHARD—Hardfacing electrode. Hobart Brothers Co., Troy, Ohio
TUFBOY—Steel tape rule. Master Rule Mfg. Co., Middletown, N. Y.
TUFFALOY—Resistance welding alloys. Welding Sales & Engineering Co., Detroit, Mich.
TUFFLEX—Arc welding cable. Westinghouse Electric Corp., Pittsburgh, Pa.
TUFFLINE—Welding resistors, junction boxes, cable connectors, welders' inspection lamps and lights, plugs and receptacles, flood lights and spotlights, circuit-braker panels and stremer lights. C. H. Stevens & Co., Cornwall Bridge, Conn.
TUFF WELDER—Leather welding gloves. E. J. Streichert, Chicago, Ill.
TUFWELD—Welding lenses and plates. Sellstrom Mfg. Co., Palatine, Ill.
TUGIT—Ratchet lever hoists. Manning, Maxwell & Moore, Inc., Muskegon, Mich.
TUKON—Hardness testers. Wilson Mechanical Instrument Co., Inc., New York City.
TU-LINE—Welding hose. Quaker Rubber Corp., Philadelphia, Pa.
TUMBLAST—Airless blast mill. Wheelabrator Corp., Mishawaka, Ind.
TUNG-ALLOY—High heat resisting electrode. The Resisto-Loy Co., Grand Rapids, Mich.
TUNG-METAL—Tungsten electrode. Mir-O-Col Alloy Co., Inc., Los Angeles, Calif.
TUNGROD—Fine granule carbide rod. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
TUNGSTIDE—Hardfacing material. The Lockrey Co., Southampton, N. Y.
TUNGWELD—Hardfacing electrodes. The Lincoln Electric Co., Cleveland, Ohio
TURBINAIR—Hoists. Jay Mfg. Co., Pittsburgh, Pa.
TURBO-JET—Metallizing gun. Metallizing Co. of America, Chicago, Ill.
TURCO AGITON—A compound for cleaning metals. Turco Products, Inc., Los Angeles, Calif.
TURCOAIRLION 81—Compound for cleaning metals. Turco Products, Inc., Los Angeles, Calif.
TURCO CONSISTO-WELD—Preparation of aluminum alloys for spot welding. Turco Products, Inc., Los Angeles, Calif.
TURCO-SOLV—Electrical cleaning solvent. Turco Products, Inc., Los Angeles, Calif.
TURCO VULCO-ETCH—Preparation of aluminum for spot welding. Turco Products, Inc., Los Angeles, Calif.
TURNER—Blow torches, fire pots, soldering irons and bronze. Turner Brass Works, Sycamore, Ill.
TURRETYPE—Welding helmets. Dockson Corp., Detroit, Mich.
TWECO—Electrode holders, cable lugs, ground clamps, cable splicers, terminal and cable connectors. Tweco Products, Inc., Wichita, Kan.
TWECO-LITE—Aluminum welding cable. Tweco Products, Inc., Wichita, Kan.
TWECO-LUG—Welding cable lug. Tweco Products, Inc., Wichita, Kan.
TWECO-TONG—Welding electrode holders. Tweco Products, Inc., Wichita, Kan.
TWEEZER WELD—Automatic and bench spot welders. Tweezer Weld Corp., Newark, N. J.
TWEEZER-WELD—Resistance welding controls and timers, welding tables and resistance welders. Federal Tool Engineering Co., Cedar Grove, N. J.
1200—Silver brazing flux. The American Platinum Works, Newark, N. J.
TWENTIETH CENTURY—A-c welder and carbon torches and electrode holders. Twentieth Century Welder Mfg. Co., Minneapolis, Minn.
25-20 STAINLESS—Arc welding electrode. Metal & Thermit Corp., New York, N. Y.
TWIN SPEC—Safety glasses. Zylo Ware Corp., Long Island City, N. Y.
TWIN THERMATORCH—Carbon arc torch. Plymouth Equipment & Supply Co., Plymouth, Mich.
TWINWELD—Double hose molded into a single unit. Hewitt Rubber Corp., Buffalo, N. Y.
TWISTITE—"C" clamp with a positive ground cable connection used as a ground clamp. National Clamp Co., Jackson, Mich.
TWO-TONE TH—Alloyed rod. Resisto-Loy Co., Grand Rapids, Mich.
TYGO WELD—Organic welding material in rod form. U. S. Stoneware Co., Tallmadge, Akron, Ohio
TYPED DIES—Forging and stamping dies. Die Typing Corp., Detroit, Mich.

U

U ALLOY—White metal welding rod. Universal Power Corp., Cleveland Ohio
UC—Underwater electrode for cutting. Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.
UCC—Welding products. Union Carbide and Carbon Corp., New York, N. Y.
UDD—Tubing. United Wire & Supply Corp., Providence, R. I.
U-LOY—Copper bearing steel sheets. Republic Steel Corp., General Offices, Cleveland, Ohio
UP—Welding positioner. Harnischfeger Corp., Milwaukee, Wis.
U. S.—Welding, cutting, lead burning and carbon removing equipment, acetylene generators, preheating torches, accessories and supplies. Harris Calorific Co., Cleveland, Ohio
U. S.—Electric drills, grinders and buffers. The United States Electrical Tool Co., Cincinnati, Ohio
U. S.—Arc welders and electrode holders. U. S. Electric Welder Corp., Toledo, Ohio
U. S.—Automatic welding torch. Harris Calorific Co., Cleveland, Ohio
U. S. ROYAL—Welding cable. United States Rubber Co., New York, N. Y.
USS—Steel products. United States Steep Corp., Chicago, Ill.
U. S. S. A-R—Abrasion resisting steel. U. S. Steel Corp., Pittsburgh, Pa.
U. S. S. MX—Free-machining bessemer bar stock. U. S. Steel Corp., Pittsburgh, Pa.
U. S. S.—Stainless steel. U. S. Steel Co., Pittsburgh, Pa.
U. S. S. CARILLOY—Alloy steel. U. S. Steel Corp., Pittsburgh, Pa.
U. S. S. COR-TEN—High strength steel. U. S. Steel Corp., Pittsburgh, Pa.
U. S. S. MAN-TEN—High strength steel. U. S. Steel Corp., Pittsburgh, Pa.
U. S. S. SUPERKORE—Alloy steey. U. S. Steel Corp., Pittsburgh, Pa.
U. S. S VITRENAMEL—Enameling grade steel. U. S. Steel Corp., Pittsburgh, Pa.
U. S. S. TENNESSEE—Bars, plates and shapes, Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
U. S. S. TRITEN—High strength steels. U. S. Steel Supply, Chicago, Ill.
UW—Underwater electrode for welding. Pacific Welding Alloys Mfg. Co., Los Angeles, Calif.

ULTRA-FLEX—Hand grinder. Metal Removal Co., Chicago 10, Ill.
ULTRA-GRAPH—Oxyacetylene torch guiding machine. Heath Engineering Co., Fort Collins, Colo.
ULTRA-SPEED—Multiple spot welder. Federal Machine and welder Co., Warren, Ohio
UNEEK—Universal head mounting for automatic welding heads. Cecil C. Peck Co., Cleveland, Ohio
UNI-CRIMP—Wire terminal. H. B. Sherman Mfg. Co., Battle Creek, Mich.
UNIFLEX — Welding cables. Uniflex Cable Co., Ypsilanti, Mich.
UNIGOGGLES—Goggles for welding, brazing and cutting. Jackson Products, Warren, Mich.
UNION—Calcium carbide. The Linde Air Products Co., New York, N. Y.
UNION—Calcium carbide. Dominion Oxygen Company, Ltd., Toronto, Ont., Canada.
UNIONMELT—Welding equipment for submerged-arc process. Linde Air Products Co., New York, N. Y.
UNIMATIC—Spot welder. Unitek Corp., Pasadena, Calif.
UNIPAR—Thread sealing compound. The Parker Appliance Co., Cleveland, Ohio
UNI-FLUX—Andco, Inc., Orchard Park, N. Y.
UNI-PULSE—Condenser discharge spot and seam welder. Federal Machine and Welder Co., Warren, Ohio
UNIQUE—Welding positioners and turning rolls. Unique Equipment, Inc., Brooklyn, N. Y.
UNIQUE—Preheating torches burning either kerosene or gasoline. Unique Manufacturing Co., Chicago, Ill.
UNISHEAR—Metal cutting, electric portable shears. Electric Tools Div., The Stanley Works, New Britain, Conn.
UNISTAGE—Air compressor. Schramm, Inc., West Chester, Pa.
UNITAIR—Compressors. Joy Mfg. Co., Pittsburgh, Pa.
UNITED—Portable fume exhausters. United Blower Co., Inc., New York, N. Y.
UNITED STATES GUAGE—Oxyacetylene gauge. United States Gauge Div., American Machine and Metals, Inc., Sellersville, Pa.
UNITED-WIRE—Seamless tubing and drawn wire. United Wire & Supply Corp., Providence, R. I.
UNITEX—Small resistance welders. Unitek Corp., Pasadena, Calif.
UNITEX—Brickfire. Quigley Co., Inc., New York, N. Y.
UNITITE—Hand operating valve. Hanna Engineering Works, Chicago, Ill.
UNITUBE—Jig and fixture system. Wharton and Wilcocks of America, Inc., New York 4, N. Y.
UNIVALVES—Welded bonnet valves. Edward Valves, Inc., East Chicago, Ill.
UNIVERSAL—Bonded abrasive products. Universal Wheel & Abrasive Products, Chicago, Ill.
UNIVERSAL—Machine for inserting and removing valves from compressed gas cylinders. Independent Engineering Co., O'Fallon, Ill.
UNIVERSAL—Metalspray gun. Metalspray Co., Los Angeles, Calif.
UNIVERSAL—Welding torch. National Cylinder Gas Co., Chicago, Ill.
UNIVERSAL—Resistance welders. Universal Welder Corp., Cleveland, Ohio
UNIVERSAL—Welding ground clamp. Mueller Electric Co., Cleveland, Ohio
UNIVERSAL—Girth welder. Morton Mfg. Co., Muskegon Heights, Mich.
UNIVERSAL — Oxyacetylene torch circle burner. Wagner Mfg. Co., Inc., Jackson, Mo.
UNIVERSAL—Automatic welding fixture. The Lewis Welding & Engineering Corp., Bedford, Ohio
UNIVERSAL—Tip cleaners. Universal Cutting & Welding Equip. Mfg. Co., Fort Lauderdale, Fla.
UNIVERSAL — Iron bender. Hossfeld Mfg. Co., Winona, Minn.
UNIVERSAL—Flame cutting machine. Vernon Tool Co., Ltd., Alhambra, Calif.
UNIVERSAL BALANCE—Welding positioners. Aronson Machine Co., Arcade, N. Y.
UNIVERSAL No. 1200—Silver brazing fluxes. The American Platinum Works, Newark, N. J.
UNIVERSAL PRESSURE — Welding and cutting torches. Harris Calorific Co., Cleveland, Ohio
UNIWELD 275 — Portable spot welder. Welding Service and Supplies Co., Chicago, Ill.
UNOX—Penetrant. Carbide and Chemical Div. of Union Carbide and Carbon Corp., New York, N. Y.
UPTON—Heat treating furnaces. Commerce Pattern & Machine Co., Detroit, Mich.
UTIL-A-TOOL—Push and pull jacks. Templeton, Kenly & Co., Inc., Broadview, Ill.
UTICA TOOLS—Pliers and wrenches. Utica Drop Forge & Tool Corp., Utica, N. Y.
UTILITY—Bench and floor grinders. Clizbe Bros. Mfg. Co., Plymouth, Ind.
UTILITY—Floodlights. Benjamin Electric Mfg. Co., Des Plaines, Ill.
UTILITY—Blast cleaner. Vacu-Blast Co., Inc., Belmont, Calif.

V

V-R—Carbide tools, blank and dies. Vascoloy-Ramet Corp., Waukegan, Ill.
V MANGANICK—Moly manganese electrode in either coated or bare, coated d-c or a-c bare DC. Hobart Bros. Co., Troy, Ohio
V-MANG—Molybdenum — austenitic — manganese rod. American Manganese Steel Div., American Brake Shoe Co., Chicago Heights, Ill.
VACU-BLASTER—Dustless blast cleaning machine. Vacu-Blast Co., Inc., Belmont, Calif.
VALENCIA—Abrasive grain pumice. Whittaker, Clarke & Daniels, Inc., New York, N. Y.
VALOR—Metal cutting saw. Victor Engrg. Corp., Paoli, Pa.
VALVALOY—Cast high alloy material. Wearaloy Co., Los Angeles, Calif.
VALVE-ALLOY—Impact resistant alloy. Resisto-Loy Co., Grand Rapids, Mich.
VANCO—Percussive butt welders. The Taylor-Winfield Corp., Warren, Ohio
VANCO—Metallizing gun. Vandersee Corp., Union, N. J.
VANDE—Metallizing gun, air regulator and fitter, wire feeding machine, spray lathe and shaft repairing tool. Vande Manufacturing Co., Chicago, Ill.
VAN DORN—Chipping hammers and tools, bench grinders, Portable electric grinders, grinding wheels, sanders and surfacers. Van Dorn Electric Tool Co., Towson, Md.
VANGTRONIC—Stored energy weld panels and bench welders. Vangtronic Corp., Bridgeport, Conn.
VANO—Blowers. Coppus Engineering Corp., Worcester, Mass.
VANOL MODEL 700—Magnetic ground clamps. Vanol Corp., St. Louis, Mo.
VANOX—Vanadium steel rod. Central Steel & Wire Co., New York, N. Y.
VANTROL — Synthetic water-soluble cutting and grinding compound. Van Straaten Chemical Co., Chicago, Ill.
VAPE-SORBER—Oil, vapor removal from air and gas lines. Selas Corp. of America, Philadelphia, Pa.
VAPO-KLEEN—Vapor degreaser. Phillips Mfg. Co., Chicago, Ill.
VAPOR-TITE 40—Inspection equipment, fluorescent ltg., Des Plaines, Ill.
VARI-LINE—Cable connectors. Burndy Engineering Co., New York, N. Y.
VARILUG—Terminal for welding cable. Burndy Engineering Co., New York, N. Y.
VELOCITY POWER—Cable splicer. Velocity Power Tool Co., Pittsburgh, Pa.
VENTA-MINE—Exhaust fans. Guyan Mach. Co., Logan, W. Va.
VENTAIR—Blowers. Coppus Engineering Corp., Worcester, Mass.
VENT-A-WELD—Welding table. Papec Machine Co., Shortsville, N. Y.
VENTURE—Synthetic rubberized tubing. E. I. du Pont de Nemours and Co., Inc., Wilmington, Del.
VERITAS—Grinding wheel dressers. Sandvik Saw & Tool, New York, N. Y.
VERNIER-SET—Interval timers. Automatic Temperature Control Co., Inc., Phila., Pa.
VERNON—Pipe and flame-cutting equipment. Vernon Tool Co., Ltd., Alhambra, Calif.
VERSA-VISE—Vise. The Will-Burt Co., Orville, Ohio
VERSI-LINK—Connector. Burndy Engineering Co., New York, N. Y.
VERSI-TAP — Tee, splice or parallel connector. Burndy Engineering Co., Inc., New York, N. Y.
VERSON—Bending brakes, bending and trimming and stamping dies. Verson Allsteel Press Co., Chicago, Ill.
VERTEX—Arc welding electrode. Metal & Thermit Corp., New York, N. Y.
VEVAC — Underwater jetting nozzle. Craftsweld Equipment Corp., Long Island City, N. Y.
VIBRATION DAMPENERS—Shock absorber. J & H Products Co., Dallas, Texas
VIBRATION SERVICE—Incandescent lamps. Champion Lamp Works, Lynn, Mass.
VICPHOSCO—Phosphor bronze electrodes. Victor Equipment Co., San Francisco, Calif.
VICSILCO—Silicon bronze electrodes. Victor Equipment Co., San Francisco, Calif.
VICTOR—Hose. Mulconroy Co., Philadelphia, Pa.
VICTOR—Balata belting. Victor Balata & Textile Belting Co., New York, N. Y.
VICTOR—Welding and cutting torches, pressure reducing regulators, flowmeters, acetylene gas generators, cylinder manifolds, welding rods and electrodes, fluxes, electrode holders and accessories and supplies. Victor Equipment Co., San Francisco, Calif.
VICTOR—Welding and power cable. Victor Electric Wire & Cable Corp., Clifton, N. J.
VICTORALLOY—Hardfacing rod. Victor Equipment Co., San Francisco, Calif.
VICTORY POINTS—Grinding wheels. Simonds Abrasive Co., Philadelphia, Pa.
VICTROMETER—A flowmeter for pressure regulators. Victor Equipment Co., San Francisco, Calif.
VICTRON—Exhaust fans. Victor Electric Products, Inc., Cincinnati, Ohio
VIKING—Arc welders, economy spot welders, and air valves. Mid-States Welder Mfg. Co., Chicago, Ill.
VIKING—Fire brick. Mexico Refractory Co., Mexico, Mo.
VISARC—Translucent nozzles for Tig welding. Tec Torch Co., Inc., Carlstadt, N. J.
VISE-GRIP—Welding clamps and wrenches. Petersen Manufacturing Co., Inc., De Witt, Neb.
VISEPRESS—Combination hydraulic vise and press. Studebaker Machine Co., Chicago, Ill.
VISE WRENCH—Quick-acting toggle type wrench. Lapeer Mfg. Co., Lapeer, Mich.
VISOR-TUC—Spectacles. Watchemoket Optical Co., Inc., Providence, Rhode Island
VISUWELD—Water-cooled torches for Tig welding. Tec Torch Co., Inc., Carlstadt, N. J.
VITALIZER—Filter-lubricator. Norgren Co., C. A., Denver, Colo.
VIXEN—Milled curved tooth files. Heller Brothers Co., Newark, N. J.
VOCO—Acetylene and oxygen. Valley Oxygen Co., Bay City, Mich.
VOGEL—Cut-off machine for tubing. Vogel Tool & Die Corp., Melrose Park, Ill.
VOLZ—Plate lifting clamp. Merrill Bros., Inc., Maspeth, N. Y.
VON CHIP—High speed steel bits. Firth Sterling Inc., Pittsburgh, Pa.
VULC-ALLOY—Steel alloy chain. The Cleveland Chain & Mfg. Co., Cleveland, Ohio
VULCAN—Electrode holders. The Fibre-Metal Products Co., Chester, Pa.
VULCANITE—Grinding wheels and centerless regulating wheels. U. S. Rubber Co., Fort Wayne, Ind.
VULCAN—Stress relieving furnaces. Vulcan Corp., Philadelphia, Pa.
VULCAN—Electric soldering irons, melting pots for solder, glue, waxes and compounds and electric heaters. Vulcan Electric Co., Danvers, Mass.
VULCAN—Clamps, lathe dogs, chain pipe tongs and vises, hoist hooks, eye bolts. J. H. Williams & Co., Buffalo, N. Y.
VULCAN—LPGas—air torches, tips, etc. Purity Cylinder Gases, Inc., Grand Rapids, Mich.
VULCOID—Material used in the head harness of welder's helmets. Sellstrom Mfg. Co., Chicago, Ill.
VYCOR BRAND—Heat resisting glass. Corning Glass Works, Corning, N. Y.

W

WB—Weldbrazing alloys and fluxes. Uniworld Research Corp. of America, Cleveland, Ohio
W-40—Sponge iron powder for electrode coatings. Hoiganaes Sponge Iron Corp., Riverton, N. J.
W BOROLON—Grinding wheels. Simonds Abrasive Co., Philadelphia, Pa.
WGP—Fluxes. Welding Gas Products Co., Chattanooga, Tenn.
W. K. B.—Cylinder truck. Pioneer Welding Mfg. Co., Kalamazoo, Mich.
W-40—Sponge iron powder for electrode coatings. Hoeganaes Sponge Iron Corp., Riverton, N. J.
W. O. NO. 1—Rust remover. Turco Products, Inc., Los Angeles, Calif.
WW—Resistance welding alloys, holders and electrodes. WW Alloys, Inc., Detroit, Mich.
WAITCUS—Spot welder. The Central Sales Corp., Chicago, Ill.
W-AL-CO—Welding fluxes, welding lenses and goggles. Welding Alloys Mfg. Co., Newark, N. J.
WALCO—Pipe wrench. Walworth Co., New York, N. Y.
WALES—Drilling and boring machine. Wales-Strippet Corp., N. Tonawanda, New York.
WALL—Oxygen, acetylene, hydrogen and equipment. Wall Chemicals Div., The Liquid Carbonic Corp., Chicago, Ill.
WALLACE—Bending machines. Wallace Supplies Mfg. Co., Chicago, Ill.
WALLEX—Hardfacing alloy rod and powder. Wall Colmonoy Corp., Detroit, Mich.
WALLOY NO. 6—Chrome-cobalt-tungsten hardfacing alloy. Wall Colmonoy Corp., Detroit, Mich.
WALLTITE—Blast burner. Eclipse Fuel Engineering Co., Rockford Ill.
WALMANG—Manganese-nickel steel welding rod. Wall Colmonoy Corp., Detroit, Mich.
WALSEAL—Valves, fittings and flanges. Walworth Co., New York, N. Y.
WALWORTH—Valves, fittings and pipe wrenches. Walworth Co., New York, N. Y.
WARCO—Mechanical presses. The Federal Machine & Welders Co., Warren, Ohio
WARDEN—Shut off valve. Security Valve Co., Los Angeles, Calif.
WARRIOR—Lightweight pedestal for automatic welding. Cayuga Machine & Fabricating Co., Inc., Depew-Buffalo, N. Y.
WARREN ALLOY—Bending and stamping dies, jigs and fixtures. Warren Alloy, Pontiac, Mich.
WARWICK—Wrought iron hoisting chains. Newhall Chain Forge & Iron Co., Westwood, N. J.
WASP—D-c arc welder. Air Reduction Sales Co., New York, N. Y.
WATER MIZER—Water saving unit for resistance welders. Van Vooren Products, East Moline, Ill.
WAYNE—Soldering flux. Wayne Chemical Products Co., Detroit, Mich.
WEAR-ARC—Hardfacing electrodes. Alloy Rods Co., York, Pa.
WEAR DEVIL—Hardfacing electrodes. Champion Rivet Co., Cleveland, Ohio.
WEARALOY—Cast alloy rods. Wearaloy Co., Los Angeles, Calif.
WEAR-CRAFT—Manganese-nickel electrodes. Allied Weldcraft, Inc., Indianapolis, Ind.
WEAREVER—Scratch brush. Universal Power Corp., Cleveland, Ohio
WEAR-EX—Alloy steel applicator bar. Pyramid Steel Co., Cleveland, Ohio
WEAR-FLAME—Hardfacing rods. Alloy Rods Co., York, Pa.
WEAR-O-MATIC—Coiled hardfacing wire. Drawalloy Corp., York, Pa.
WEAR-SHARP—Patented corrugated dipper tooth repointer. American Manganese Steel Div., American Brake Shoe Co., Chicago, Ill.
WEARWELD—Hardfacing electrode. Lincoln Electric Co., Cleveland, Ohio

WEBB—Plate bending rolls. The Webb Corp., Webb City, Mo.
WEDGE-GRIP—Wire connector. H. B. Sherman Mfg. Co., Battle Creek, Mich.
WEDGE-LOCK—Steel Shelving. Berger Mfg. Div. of Republic Steel Corp., Canton, Ohio
WEDGIE—Porto-power spred ram. Blackhawk Mfg. Co., Milwaukee, Wis.
WEGEWELL—Bronze welding rods. Titan Metal Mfg. Co. Bellefonte, Pa.
WEIGER-WEED—Spot seam and projection welding electrodes, electrode holders and tungsten carbide inserts. Weiger, Weed & Co., Division of Fansteel Metallurgical Corp., Detroit, Mich.
WELCO—Oxygen and acetylene. Welding Gas Products Co., Chattanooga, Tenn.
WELCO—Safety goggles and face shields of all types. Welsh Mfg. Co., Providence, R. I.
WELCO—Positioners, manipulators, flux-recovery systems, other equipment for automatic welding. The World Electric Co., Cleveland, Ohio
WELD FLUX RS-3L—Pneumatic scaling hammer. Dallet Co. The, Philadelphia, Pa.
WELD FLUX SCALER—Air chisel equipment. The Dallet Co., Philadelphia, Pa.
WELDA—Welding lenses. Harry Buegeleisen, Inc., Brooklyn, N. Y.
WELDALUMINITE—Anti-porosity compound. Special Chemicals Corp., Ossining, N. Y.
WELD-AID—Insert for arc weldors wearing bifocals. Willson Products, Inc., Reading, Pa.
WELD-AIR-MATIC—Automatic air conversion unit for spot welders. Robt. W. Hoffman Co., Chicago, Ill.
WELDAFLUX—Flux. Tip Top Electric Products Co., New York 18, N. Y.
WELDALL—Spot-welding pliers. Tip Top Electric Products Co., New York 18, N. Y.
WELD-ALLOY—Hard solder. Tip Top Electric Products Co., New York 18, N. Y.
WELDALOY—Spot welding tips, wheels, holders, bar stock alloys and castings. Weldaloy Mfg. Co., Detroit, Mich.
WELDANPOWER—Welder-power unit. The Lincoln Electric Co., Cleveland, Ohio
WELDCO—Arc welding electrodes, arc welders and accessories. Welding Service Sales, Inc., San Francisco, Calif.
WELDO—Chain-tubing. The Youngstown Welding & Engineering Co., Youngstown, Ohio
WELD-CRAFT—Hardfacing electrodes. Allied Weld-Craft, Inc., Indianapolis, Ind.
WELDER SPECIAL—Horsehide split welding gloves. E. J. Streichert, Chicago, Ill.
WELD-CUT-PAL KIT—Welding and cutting outfits. Burdett Oxygen Co., Cleveland, Ohio
WELDELL—Forged steel pipe fittings. Taylor Forge and Pipe Works, Chicago, Ill.
WELD-ENDS—Pipe fittings and pipe welding fittings. Pipe Line Development Co., Cleveland, Ohio
WELDERS—Welding torches, cutting attachments, oxygen and acetylene regulators, cutting, soldering and brazing torches, carbonic and air regulators. The Welders Supply & Mfg. Co., Cincinnati, Ohio
WELDERS ELGIN—Welding rods. Borm Manufacturing Co., Elgin, Ill.
WELDER'S EYE EASE—Eye lotion. Detroit First Aid Co., Detroit, Mich.
WELDER'S EYE LOTION—Eye lotion. Ashton's Drug Stores, Youngstown, Ohio
WELDER'S MOULDING COMPOUND—Carbon compound. Harris Calorific Co., Cleveland, Ohio
WELDER'S PAL—Eye drops. Carhoff Co., Cleveland, Ohio
WELDERULE—Slide rule. General Electric Co., Schenectady, N. Y.
WELDERZ FREND—Acetylene generator. Welderz-Frend Generator Co., Lubbock, Tex.
WELDEX—Resistance welding machines, transformers and accessories. Weldex Inc., Detroit, Mich.
WELD-FAST—Bronze welding rods. Revere Copper and Brass, Inc., New York, N. Y.
WELDFLO—Coated welding electrodes. Williams and Co., Inc., Pittsburgh, Pa.
WELDING MACHINES—Spot, seam, gun, projection and multi-spot resistance welding. Welding Machines Mfg. Co., Detroit, Mich.
WELDIT—Welding and cutting torches, supplies, accessories, etc. Weldit, Inc., Detroit, Mich.
WELDIMATIC—Welding and heating torches. Weldit, Inc., Detroit, Mich.
WELDITE—Electrodes and welding rods. Chicago Steel and Wire Co., Chicago, Ill.
WELDITE—Welding lens. Sellstrom Mfg. Co., Palatine, Ill.
WELDMASK—Compound. Turco Products, Inc., Los Angeles, Calif.
WELDMASTER—Clamps. Wetzler Clamp Co., Long Island City, N. Y.
WELDMASTER—Precision resistance welder. Unitek Corp., Pasadena, Cal.
WELDMASTER—Welding torches. Modern Engineering Co., St. Louis, Mo.
WELDMATIC—Precision resistance welder. Unitek Corp., Pasadena, Cal.
WELDMITE—Arc welders. Sterling Utilities Co., Inc., Brooklyn, N. Y.
WELDMOBILE—Self-propelled arc welder. Hobart Bros. Co., Troy, Ohio
WELDMORE—Carbon arc welding electrode. Lincoln Electric Co., Cleveland, Ohio
WELDMORE—Welding positioners, jigs & fixtures and turning rolls. Pandjiris Weldment Co., St. Louis, Mo.
WELD-O-VENT—Welding fume exhauster. Engwald Corp., Brooklyn, N. Y.
WELDOLETS—Welding fittings. Bonney Forge and Tool Works. Allentown, Pa.
WELDOMATIC—Automatic arc welding head, control and machines. Westinghouse Electric Corp., Pittsburgh, Pa.
WELD-O-TROL—Electronic controls, seam and spot welding contactors. Westinghouse Electric Corp., E. Pittsburgh, Pa.
WELDPLATE—Pipe Line Development Co., Cleveland, Ohio
WELDPOWER—A. C. and sfored energy resistance welders and controls. Raytheon Mfg. Co., Waltham, Mass.
WELD PROBER—Weld testing and sampling machine. The Fibre-Metal Products Co., Chester, Pa.
WELDRAWN—Welded and cold drawn tubing in stainless steels, nickel and nickel alloys and beryllium copper. Superior Tube Co., Norristown, Pa.
WELDRITE POROSEAL—Compound. Electric Welding Machine Co., Detroit, Mich.
WELDRITE—Seam, arc spot and butt electric welding machines. Electric Welding Machine Co., Detroit, Mich.
WELD-ON—Plow share edges, cultivator points, lister share points, planter runner edges, etc. Osmundson Spade Mfg. Co., Perry, Ia.
WELDSAFE—Welding lenses. Sellstrom Mfg. Co., Palatine, Ill.
WELDSTEEL—Utility pipe and bar clamp. Grand Specialties Corp., Chicago, Ill.
WELD-X—Spatter preventative. Kelite Products Inc., Los Angeles, Calif.
WELLS—Metal cutting band saws. Wells Mfg. Corp., Three Rivers, Mich.
WELSHARD—Cover, glass and goggle lenses. Welsh Manufacturing Co., Providence, R. I.
WELSH-GUARD—Lightweight goggles. Welsh Mfg. Co., Providence, R. I.
WELSHWELD—Goggles, helmets, and lenses for same. Welsh Mfg. Co., Providence, R. I.
WELTRONIC—Electronic controls. Weltronic Co., Detroit, Mich.
WEN-LYN—Pneumatic, chipping and scaling hammer. Wen-Lyn Products, Burbank, Calif.
WESLAC—Welding cement. Wesley Lacquer Co., Brooklyn, N. Y.
WESLO—Chain. Western Chain Co., Chicago, Ill.
WESTON—Differential chain hoists. David Round & Son, Cleveland, Ohio
WESTON—Current measuring instruments, pyrometers and general purpose relays. Weston Elec. Instrument Co., Newark, N. J.
WESTOIL—Non acid flux. Farrelloy Co. Philadelphia, Pa.
WESTINGHOUSE—Electric arc welding equipment. Westinghouse Electric Corp., Pittsburgh, Pa.
WETOIL—Non-acid flux. Farrelloy Co., Philadelphia, Pa.
WETZLER—Adjustable clamps. Wetzler Clamp Co., Long Island City, N. Y.
WHARTON—Gas cylinders for oxygen, hydrogen, etc. Taylor-Wharton Iron and Steel Co., Easton, Pa.
WHEELABRATOR—Airless abrasive blast cleaning equipment and steel shot abrasive. Wheelabrator Corp., Mishawaka, Ind.
WHEELER—Plow points. Star Mfg. Co., Division of Illinois Iron & Bolt Co., Carpentersville, Ill.
WHEELRITE—Cylinder trucks. Weldrite Co., Inc., Long Island, N. Y.
WHIPPET—Electric hoist. Ford Chain Block Div. of Amer. Chain & Cable Co., Inc., New York, N. Y.
WHIRLWIND—Wire wheel brushes. The Black & Decker Mfg. Co., Towson, Md.
WHIRLWIND—Air cooling system. Ergolyte Mfg. Co., Philadelphia, Pa.
WHITE CHIEF—Steel tape rule. Carlson Rules & Measures, Monrovia, Calif.
WHITE FLASH—Shielded arc electrodes. Central Steel and Wire Co., Chicago, Ill.
WHITE FLUX COATED 18-8 STAINLESS STEEL—Steel Sales Corp., Chicago, Ill.
WHITE'S—White metal rod. L. B. White Co., Onalaska, Wis.
WHITTEMORE—Strain gage. Baldwin-Lima-Hamilton Corp., Philadelphia, Pa.
WHIZ—Compound. R. M. Hollingshead Corp., Camden, N. J.
WICKWIRE—Wire rope slings. Wickwire Spencer Steel Co., New York, N. Y.
WIESE WORLD BRAND—Cultivator shovels and sweeps. Wiese Plow Welding Co., Perry, Iowa
WIL-WELD—Welding fluxes. Tolman Manufacturing Co., Boston, Mass.
WILL-WELD—A-c welding equipment. Will-Weld Mfg. Co., Omaha, Neb.
WILLIAMS—Wrenches, tool holders, pliers, screw drivers, punches and chisels. J. H. Williams & Co., Buffalo, N. Y.
WILLSON—Goggles, respirators, gas masks, welding helmets, shields, etc. Willson Products, Inc., Reading, Pa.
WILLSONITE—Tinted glass for flash goggles. Willson Products, Inc., Reading, Pa.
WILLSON-WELD—Filter glass Willson Products, Inc., Reading, Pa.
WILMINGTON FIBRE—Vulcanized fibres available in sheets, rods, tubes and shapes, such as electrode holder handles, knobs, washers, shims, etc. Wilmington Fibre Specialty Co., New Castle, Wilmington, Del.
WILTON—Vises and C clamps. Wilton Tool Manufacturing Co., Schiller Park, Ill.
WINGFOOT—Corrugated welding hose. Goodyear Tire and Rubber Co., Inc., Akron, Ohio
WINTERGARDE—Fire extinguisher. Pyrene Manufacturing Co., Newark, N. J.
WINTERIZERS—Washable helmet liners for cold weather. Jackson Products, Inc., Warren, Mich.
WIRE-NUTS—Wire connectors. Ideal Industries, Inc., Sycamore, Ill.
WISCONSIN—Air-cooled engines. Wisconsin Motor Corp., Milwaukee, Wis.
WISSCO—Gas and electric welding wire. Wickwire Spencer Steel Co., New York, N. Y.
WITT—Welding gas pressure gages. Witt Gauge Co., Eau Claire, Wis.
WIX—Welding gloves. Wickman Glove Co., Berkley, Calif.
WIZARD JR.—Chrome-clad tape-rules. The Lufkin Rule Co., Saginaw, Mich.
WODACK-DO-ALL—Combination electric drill and hammer. Wodack Electric Tool Corp., Chicago, Ill.
WONDERFLUX—Silver brazing flux. American Silver Co., Inc., Flushing, N. Y.
WORK SHOP KIT—Welding outfits. Burdett Oxygen Co., Cleveland, Ohio
WORTHINGTON—Turning rolls, head manipulators and positioners. Worthington Corp., Harrison, N. J.
WOVEN-GARD—Mitts, handspats, gloves, arm guards. Industrial Glove Corp., Danville, Ill.
WRIGHT—Hoists and cranes. Wright Hoist Div. of Amer. Chain & Cable Co., Inc., York, Pa.
WW STERLITH—Grinding wheel. Sterling Grinding Wheel Div., The Cleveland Quarries Co., Tiffin, Ohio
WYCO—Flexible shafts, flexible shaft grinders, buffers, machines, speed saws & grinding wheels. Wyzenbeek & Staff, Inc., Chicago, Ill.
WYPO—Welding and cutting torch tip cleaners. Maitlen & Benson, Inc., Long Beach, Calif.

X

X-54—Paint, lacquer and enamel stripper. Diversey Corp., Chicago, Ill.
X-FLEX—Welding cables. Universal Welder Corp., Cleveland, Ohio
XX SPECIAL—Welding rods. K-G Equipment Co., Inc., Allentown, Pa.
XXXX NICKEL—Babbitt Metal. Federated Metals Div., American Smelting & Refining Co., New York, N. Y.
XACTLITE—Temperature control. Claud S. Gordon Co., Chicago, Ill.
XCEL-FLUX—Welding and brazing compounds, kits, torch outfits and silver soldering paste. American Products Co., Chicago, Ill.
XRAVOGRAPH—Flame-cutting machine. Air Reduction Sales Co., New York, N. Y.
XTRA-LITE—Plastic cover lens and plates. Selstrom Mfg. Co., Palatine, Ill.
X-TRON 180—Portable X-ray unit. Mitchell Radiation Products Corp., Norristown, Pa.
XYRON—Improved consumable electrode for machinable welds on cast iron. Eutectic Welding Alloys Corp., Flushing, N. Y.
X-WELD—Welded steel chain. American Chain & Cable Co., Inc., Bridgeport, Conn.

Y

YELLOW JACKET—Engine driven arc welder. Air Reduction Sales Co., New York, N. Y.
YELLOW STRAND—Wire rope. Broderick & Bascom Rope Co., St. Louis, Mo.
YELLOW-STRIPE—Aluminum oxide, papers and cloth. Clover Mfg. Co., Norwalk, Conn.
YORK—Tinning and boiler compounds. York Engineering Co., Chicago, Ill.
YORK'S No. 77—Brazing and welding flux. York Engineering Co., Chicago, Ill.
YOUNG BROTHERS—Industrial ovens. Young Brothers Co., Cleveland, Ohio

Z

ZB—Blast burner. Eclipse Fuel Engineering Co., Rockford, Ill.
Z NICKEL—Nickel heat treatable alloy. The International Nickel Co., New York, N. Y.
ZEPHER—Machine tool. DoAll Co., Des Plaines, Ill.
ZEPHER—Portable electric drills, sprayers, saws and sander-polishers. Portable Electric Tools, Inc., Chicago, Ill.
ZEPHYRWELD—Welding fittings. Tri-Clover Machine Co., Kenosha, Wis.
ZETLAN—Fire retardants. Wayne Chemical Products Co., Detroit, Mich.
ZEVA—Electric soldering tool. Paul C. Roche Co., Inc., New York 7, N. Y.
ZIG-ZAG—Burners. Gas Appliance Service Inc., Chicago, Ill.
ZINCILATE—Anti-Corrosive paint. Industrial Metal Protectives Inc., Dayton, Ohio
ZIP-LIFT—Electric hoist. Harnischfeger Corp., Milwaukee, Wis.
ZIP 24 AND 27—Iron-powder electrodes. Westinghouse Electric Corp., Pittsburgh, Pa.
ZIPPER—A-c arc welders. Mid-States Welder Mfg. Co., Chicago, Ill.
ZIP SPOT—Portable spot welder. Mid-States Welder Mfg. Co., Chicago, Ill.
ZIRTUNG—Welding electrodes. Sylvania Electric Products, Inc., Towanda, Pa.
ZYGLO—Inspection equipment and metals. Magnaflux Corp., Chicago, Ill.

NAMES AND ADDRESSES

IN this section are arranged alphabetically the names of manufacturers of welding equipment, tools and supplies whose products are listed in the Classified List, together with their addresses. Only one address is given for each company, that being its main or general sales office, or the one otherwise specified by the company —except where manufacturing activities are so divided between two or more plants of a company that certain lines are produced in one plant while others are made elsewhere and orders should be placed according to the plants in which they are manufactured.

Disregard individual's initials or the word "The" in locating the name of a manufacturer. The name of a company such as D. B. Gorbound & Co. would be listed "Gorbound, D. B., & Co." Where the prefix "The" is used, a company is listed as follows: "Morgan Co., The." Where initials form the main part of a name, as, for instance, "B. & R. Pipe Co." the names of such companies are grouped with others of a similar type at the start of listings appearing under the first initial. For instance. "B. & R. Pipe Co." would be found among the first few names appearing under "B."

For convenience, we have generally used "Co." instead of "Company" and "Corp." instead of "Corporation," regardless of whether the company or corporation spells out the word. Similarly, we use "Inc." uniformly instead of "Incorporated."

A

A & A Mfg. Co., 2017 W. Clybourn St., Milwaukee 3, Wis.
ACF Industries, Inc., 30 Church St., New York 7, N. Y.
Abrasive Products, Inc., 110 Pearl St., South Braintree, Mass.
Ace Drill Corp., 2600 E. Maumee, Adrian, Mich.
Acet-A-Tips Co., 5069 W. Madison St., Chicago 44, Ill.
Acetogen Gas Co., 20137 Sherwood Ave., Detroit 34, Mich.
Acetylene Gas Co., 3411 Pine Blvd., St. Louis 3, Mo.
Acetylene Service Co., 1105 Zuni St., Denver 4, Colo.
Acheson Colloids Co., Port Huron, Mich.
Acme Elec. Welder Co., 2618 Fruitland Ave., Los Angeles 58, Calif.
Acme Mfg. Co., 1400 E. Nine Mile Road, Detroit 20, Mich.
Acme Protection Equip. Co., 1201 Kalamazoo St., South Haven, Mich.
Acme White Lead & Color Works, 8250 St. Aubin Ave., Detroit 11, Mich.
Acorn Iron and Supply Co., Delaware Ave. and Poplar St., Philadelphia, Pa.
Acro Welder Mfg. Co., 1719 West St. Paul Ave., Milwaukee 3, Wis.
Acromark Co., 9-13 Morrell St., Elizabeth 4, N. J.
Acoustica Associates, Inc., Glenwood Landing, L. I., N. Y.
Actarc Inc., 5806 Hough Ave., Cleveland 3, Ohio
Adamas Carbide Corp., Kenilworth, N. J.
Adams Alloy Company, P. O. Box 286, Wakita, Okla.
Adapt-All Tip Co., 3833 Wilshire Blvd., Los Angeles 5, Calif.
Adjustable Clamp Co., 426 North Ashland Ave., Chicago 22, Ill.
Adler Mfg. Co., 5085 N. Broadway, Chicago 40, Ill.
Advance Glove Mfg. Co., 901 W. Lafayette St., Detroit 26, Mich.
Advanced Vacuum Prods., Inc., Div. General Ceramics Corp., 18-22 Liberty St., Stamford, Conn.
Aeroil Products Co., Inc., Westley St., South Hackensack, N. J.
Aeroprojects, Inc., 310 E. Rosedale Ave., West Chester, Pa.
Aerovox Corp., 740 Belleville Ave., New Bedford, Mass.
Aetna Cylinders, Inc., 19345 John R St., Detroit 3, Mich.
Aget Mfg. Co., Adrian, Mich.
Agnew Electric Co., 123 S. Main St., Milford, Mich.
Air Controls, Inc., 2310 Superior Ave., Cleveland 14, Ohio
Air Equipment Corp., 1355 Michigan St., N.E., Grand Rapids, Mich.
Air Filter Corp., 108 N. Water St., Milwaukee 2, Wis.
Air Products, Inc., P.O. Box 538, Allentown, Pa.
Air Reduction Sales Co., Div., Air Reduction Co., Inc. 150 E. 42nd St., New York 17, N. Y.
Aircraft-Marine Products, Inc., 1523 N. Fourth St., Harrisburg, Pa.
Aircraft Standard Parts Co., 41 S. 6th St., Newark 7, N. J.
Aircraft Tools, Inc., 2306 E. 38th St., Los Angeles 11, Calif.
Airline Welding & Engineering, 785 N. Prairie Ave., Hawthorne, Calif.
Airtherm Mfg. Co., 700 S. Spring Ave., St. Louis 10, Mo.
Ajax Elec. Co., Inc., Laurel & Delaware Ave., Philadelphia, Pa.
Ajax Electrothermic Corp., Ajax Park, Trenton 5, N. J.
Alabama Oxygen Co., 2020 Vanderbilt Rd., Birmingham, Ala.
Aladdin Mfg. Co., 3125 Harrison, Kansas City, Mo.
Aladdin Rod & Flux Mfg. Co., 1300 Burton St., S. E., Grand Rapids 7, Mich.
Alaska Oxygen Co., Box 351, Fairbanks, Alaska.
Albertson Co., 3100 Lowell Ave., Sioux City 3, Iowa
Alcar Instruments, Inc., Div. of Eastern Electro-Sonic Industries Corp., 595 Madison Ave., New York 22, N. Y.
Aldan Oxygen Mfg. Co., Inc., Oak Lane & B&O Railroad, Collingdale, Del. Co., Pa.
Alemite Div., Stewart-Warner Corp., 1826 Diversey Pkwy., Chicago 14, Ill.
Alfco Laboratories, 2415 W. Belmont Ave., Chicago 18, Ill.
Aljay Mfg. Co., Inc., 1516 Callowhill St., Philadelphia 30, Pa.
Allegheny Ludlum Steel Corp., H. W. Oliver Bldg., Pittsburgh 22, Pa.
Allen Co., L. B., 6719 W. Bryn Mawr Ave., Chicago 31, Ill.
Allen Electric & Equipment Co., 2101 N. Pitcher St., Kalamazoo, Mich.
Allen Mfg. Co., W. D., 566 W. Lake St., Chicago, Ill.
Allen Optical Co., Sani Spray Division, 17 Allen St., Buffalo 2, N. Y.
Allied Prod. Co., 1133 Newport Ave., Chicago 13, Ill.
Allied Tractor & Steel Prod. Corp., 7835 Broadway, Cleveland 5, Ohio
Allied Weld-Craft, Inc., 401 W. South St., Indianapolis 4, Ind.
Allis-Chalmers Mfg. Co., Milwaukee 1, Wis.
Allmand Bros. Mfg. Co., 1315 4th Ave., Holdrege, Nebr.
Alloy Metal Wire Div., H. K. Porter Co., Inc., Prospect Park, Pa.
Alloy Ring Service, 1095 E. 52nd St., Indianapolis 5, Indiana
Alloy Rods Co., Lincoln Highway, West, York 16, Pa.
Alloy Specialties Co., 2441 Waverly Ave., Swissvale, Pa.
Alloy Sprayer Co., 602 First Natl. Bk. Bldg., Ann Arbor, Mich.
All-State Welding Alloys Co., Inc., 249-55 Ferris Ave., White Plains, N. Y.
Alpha Metals, Inc., 56 Water St., Jersey City 4, N. J.
Alpha Plastics Inc., 15 Northfield Rd., West Orange, N. J.

Alphil Spot Welder Co., 1058 Pacific St., Brooklyn 16, N. Y.
Al-Rod Co., The, 2136 Mallory St., San Bernardino, Calif.
Aluminum Co. of America, Alcoa Bldg., Mellon Sq., Pittsburgh 19, Pa.
Aluminum Solder Corp., 10 E. 52nd St., New York 22, N. Y.
Aluminum Wire Prod. Co., Inc., 9 Naubuc Ave., Glastonbury, Conn.
Alwarth Chemical Corp., 366 Madison Ave., New York, N. Y.
American Agile Corp., 5461 Dunham Road, Maple Heights, Ohio
American Allsafe Co., Inc., 1245 Niagara St., Buffalo 13, N. Y.
American Arc Welders, Inc., Roseau, Minn.
American Blower Corp., 8111 Tierman Ave., Detroit 32, Mich.
American Brass Co., The, American Metal Hose Branch, 698 So. Main St., Waterbury 20, Conn.
American Brass Co., The, 414 Meadow St., Waterbury 20, Conn.
American Cable Div. of American Chain & Cable Co., Inc., 271 S. Pennsylvania Ave., Wilkes-Barre, Pa.
ACF Industries, Inc., 30 Church St., New York 7, N. Y.
American Carbide & Chem. Corp., 3411 Pine St., St. Louis 3, Mo.
American Chain Div. of American Chain & Cable Co., Inc., York, Pa.
American Compressed Gas Products, Inc., 5300 S. Hanna St., Ft. Wayne 5, Ind.
American Crayon Co., The, 1706 Hayes Ave., Sandusky, Ohio.
American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N. Y.
American Diamond Saw Co., 519 N. W. Park Ave., Portland 9, Ore.
American Elec. Fushion Corp., 2604 Diversey Blvd., Chicago 47, Ill.
American ELIN Corp., 1 Wall St., New York, N. Y.
American Equipment Co., 7 Albion St., Paterson, N. J.
American Fork & Hoe Co., 1623 Euclid Ave., Cleveland 15, Ohio.
American Gas & Chemical Co., 111 S. 4th St., Harrison, N. J.
American Gas & Chemicals, Inc., 45 Rockefeller Plaza, New York 20, N. Y.
American Handle Co., P.O. Box 185, Jonesboro, Ark.
American Industrial Safety Equip. Co., 3500 Lakeside Ave., Cleveland 14, Ohio.
American LaFrance-Foamite Corp., 925 E. La France St., Elmira, N. Y.
American Machinery & Foundry Co., 261 Madison Ave., New York 16, N. Y.
American Magnesium Corp., 2210 Harvard St., Cleveland 5, Ohio.
American Manganese Steel Div., American Brake Shoe Co., 389 E. 14th St., Chicago Heights, Ill.
American Metal Hose Branch, American Brass Co., 698 S. Main St., Waterbury 88, Conn.
American Metal Products Co., 34 So. Bridge St., Worcester, Mass.
American Nickeloid Co., 1501 2nd St., Peru 7, Ill.
American Optical Co., 3 Mechanic St., Southbridge, Mass.
American Oxygen Service Corp., 600 Essex St., Harrison, N. J.
American Pamcor, Inc., 181 Hillcrest Ave., Havertown, Pa.
American Photo Copy Equip. Co., 2849 N. Clark St., Chicago 14, Ill.
American Pipe Tool Co., 4856 W. Kinzie St., Chicago 44, Ill.
American Platinum Works, The, 231 N. J. R. R. Ave., Newark 5, N. J.
American Product Corp., 422 South Dearborn St., Chicago 5, Ill.
American Pullmax Co., Inc., 2455 N. Sheffield Ave., Chicago 14, Ill.
American Pulverizer Co., 1525 Macklind Ave., St. Louis, Mo.
American Relay-Welder Co., 58 Frelinghuysen Ave., Newark 5, N. J.
American Sand Banum Co., Inc., 9 Rockefeller Plaza, New York 20, N. Y.
American Scale Co., 919 Baltimore Ave., Kansas City 6, Mo.
American Schaeffer & Budenberg Instr. Div., Manning, Maxwell & Moore, Inc., Bridgeport, Conn.
American Silver Co., Inc., 36-07 Prince St., Flushing 54, N. Y.
American Smelting & Refining Co., Federated Metals Div., 120 Broadway, New York 5, N. Y.
American Solder & Flux Co., 19th & Willard St., Philadelphia, Pa.
American Stamping Co., 310 E. Burnham St., Battle Creek, Mich.
American Steel & Wire Co., Rockefeller Bldg., 614 Superior Ave., N. W., Cleveland 13, Ohio.
American Transformer Co., 178 Emmet St., Newark 5, N. J.
American Vacuum Co., 816 S. Michigan Ave., Chicago 5, Ill.
American Ventilating Hose Co., 100 Park Ave., New York 17, N. Y.
American Welding Alloys Corp., 124 57th St., Brooklyn 20, N. Y.
American Welding & Mfg. Co., Warren, Ohio.
American Welding Society, 33 W. 39th St., New York 18, N. Y.
Ames, B. C. Co., 26 Ames St., Waltham 54, Mass.
Ames Spot Welder Co., Inc., 1328 58th St., Brooklyn 19, N. Y.
Ampco Metal, Inc., 1701 S. 38th St., Milwaukee, Wis.
Ampco Twist Drill Corp., 811 Belden St., Jackson, Mich.
Amperex Electronic Corp., 230 Duffy Ave., Hicksville, L. I., N. Y.
Ampower Products Co., 5737 W. 87th St., Oak Lawn, Ill.
Amsco Div.—See American Manganese Steel Div.
Anaconda Wire & Cable Co., 25 Broadway, New York 4, N. Y.
Anchor Metal Co., 244 Boerum St., Brooklyn, N. Y.
Andco, Inc., Orchard Park, N. Y.
Anderson Corp., 1039 Southbridge St., Worcester 3, Mass.
Anderson, Albert & J. M., Mfg. Co., 289-305 A St., Boston 10, Mass.
Andreasen, Holger, Inc., 703 Market St., San Francisco 3, Calif.
Andrew King, 67 E. Lancaster Ave., Ardmore, Penn.
Angle Steel Equip. Co., Inc., Elm St., Plainwell, Mich.
Anker Holth Mfg. Co., 2723 Conner St., Port Huron, Mich.
Ansul Chemical Co., Fire Extinguisher Division, 1 Stanton St., Marinette, Wis.
Anthony, F. M., Co., 2022 Oakland Ave., Piedmont 11, Calif.
Anti-Borax Compound Co., Inc., 1506 Wall St., Ft. Wayne 9, Ind.
Anzick Mfg. Co., 23675 Mound Rd., Van Dyke, Mich.
Apollo Steel Co., Oliver Bldg., Pittsburgh, Pa.
Appleton Electric Co., 1701-1759 Wellington St., Chicago 13, Ill.
Aqua Electric Scale Control, Inc., 2026 E. 22nd St., Cleveland 15, Ohio.
Arcair Co., P.O. Box 4227, Bremerton, Wash., and 427 S. Mt. Pleasant Ave., Lancaster, Ohio.
Archer, Inc., Fred C., 4171 N. Richards St., Milwaukee 12, Wis.
Arcos Corp., 1500 South 50th St., Philadelphia 43, Pa.
Ardagh Welding Supply Co., 4626 W. Lawrence Ave., Chicago, Ill.
Armco Steel Corp., 703 Curtis St., Middletown, Ohio.
Armglo Co., 3618 W. Pierce St., Milwaukee 4, Wis.
Armite Laboratories, 6609 Broad St., Los Angeles 1, Calif.
Armor-Tuf Sales Corp., 299 Madison Ave., New York, N. Y.
Armour & Co., Coated Abrasives Div., N. Benton Rd., Alliance, Ohio
Armstrong-Blum Mfg. Co., 5700 W. Bloomingdale Ave., Chicago 39, Ill.
Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago 30, Ill.
Armstrong Cork Co., Building Material Div., Liberty St., Lancaster, Pa.
Arnold Serton, Inc., 10 Rockefeller Plaza, New York 20, N. Y.
Aro Equipment Corp., Enterprise & Trevitt Sts., Bryan, Ohio.
Aro Spot Welders, Inc., Div. Guthery Machine Tool Corp., 38-31 Crescent St., Long Island City 1, N. Y.
Aronson Machine Co., Jyne St., Box 317, Arcade, N. Y.
Arrow Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford 6, Conn.
Ashton's Phamacist, 2724 Mahoning Ave., Youngstown 9, Ohio.
Associated Bag & Apron Co., 2650 W. Belden Ave., Chicago 47, Ill.
Associated Business Counselors, P.O. Box 112, Skokie, Ill.
Associated Research, Inc., 3758 W. Belmont Ave., Chicago 18, Ill.
Athol Machine & Foundry Co., 82 Southington St., Athol, Mass.
Atkins E. C. & Co., 402 S. Illinois St., Indianapolis 9, Ind.
Atkomatic Valve Co., 545 Abbott St., Indianapolis, Ind.
Atlantic Abrasive Corp., 543 Pearl St., S. Braintree, Mass.
Atlantic Metal Hose Co., Inc., 123 W. 64th St., New York, N. Y.
Atlas Abrasive Corp., 459 12th St., Brooklyn 15, N. Y.
Atlas Foundry Co., 545 Lyons Ave., Irvington 11, N. J.
Atlas Press Co., 1710 N. Pitcher St., Kalamazoo 13D, Mich.
Atlas Welding Accessories Co., 707 East Lewiston Ave., Ferndale 20, Mich.
Atlas Welding & Mfg. Co., 2200 W. Pacific Coast Hwy., Long Beach 10, Calif.
Atrax Co., The, 240 Day St., Newington 11, Conn.
Authauser Bros. Corp., 575 Madison Ave., New York 22, N. Y.
Aurora Equipment Co., Equito Div., Aurora, Ill.
Auto Arc Weld Mfg. Co., 9615 Meech Ave., Cleveland 5, Ohio.
Automatic Electric Sales Corp., 1033 W. Van Buren St., Chicago 7, Ill.
Automatic Gas Flux Co., Public Square Bldg., Cleveland 13, Ohio.
Automatic Switch Co., 391 Lakeside Ave., Orange, N. J.
Automatic Temperature Control Co., Inc., 5200 Pulaski Ave., Phila. 44, Pa.
Automatic Welding Co., P.O. Box 3133, Tulsa, Okla.
Automatic Welding Co., 13390 Watertown Plank Rd., Elm Grove, Wis.

B

BMC Mfg. Corp., 5-9 Griswold St., Binghamton, N. Y.
Babcock & Wilcox Co., The, 161 E. 42nd St., New York 17, N. Y.
Babcock & Wilcox Co., The, Tubular Prods. Div., Beaver Falls, Ohio.
Bache, Semon & Co., 636 Greenwich St., New York 14, N. Y.
Baier Ackerman, Inc., 18 E. 41st St., New York 17, N. Y.
Baker Bros., Inc., Post & Harlean Sts., Toledo, Ohio.
Baker Co., Inc., The, Maplewood, Maine.
Balbach Co., The, 1201-7 California St., Omaha 2, Neb.
Baldor Electric Co., 4353 Duncan Ave., St. Louis 8, Mo.
Baldwin-Lima-Hamilton Corp., Chester Park, Simpson, & Eddystone, Philadelphia 42, Pa.
Balmar, Franklin, Corp., Woodberry, Baltimore 11, Md.
Balteau Electric Corp., New & Meadow St., Stamford, Conn.
Banner Mfg. Co., 6820 N. 43rd St., Milwaukee 9, Wis.
Barksdale Valves, 5125 Alcoa Ave., Los Angeles 58, Calif.
Barnebey-Cheney Co., Cassady at 8th Ave., Columbus, Ohio.
Bar-Ray Prods., Inc., 209 25th St., Brooklyn 32, N. Y.
Barnes, W. O., Co., Inc., 1297 Terminal Ave., Detroit 14, Mich.
Barrett-Cravens Co., 3255 W. 30th St., Chicago 23, Ill.
Barth Mfg. Co., The, Milldale, Conn.
Bartlett Mfg. Co., 3003 E. Grand Blvd., Detroit 2, Mich.
Barton Products, Inc., Defiance, Ohio.
H. R. Basford Co., 235 Fifteenth St., San Francisco 3, Calif.
Bastian-Blessing Co., 4201 W. Peterson Ave., Chicago 30, Ill.
Bates Products, Inc., 1129 E. 74th St., Chicago 19, Ill.
Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 2, N. Y.
Bay State Abrasive Products Co., 12 Union St., Westboro, Mass.
Bay State Tap & Die Co., 75 Chauncey St., Mansfield, Mass.
Bearium Metals Corp., 258 State St., Rochester 4, N. Y.
Beaver Pipe Tools, Inc., 310 Dana Ave., Warren, Ohio.
Beaverdell Co., Inc., 2947 N. 8th Ave., Phoenix, Arizona.
Becker Bros. Carbon Co., 3450 S. Laramie Ave., Cicero 50, Ill.
Behr-Manning Corp., Box 808, Troy, N. Y.
Belden Mfg. Co., 4647 W. Van Buren St., Chicago 44, Ill.
Belleville Engrg. Co., 367 Broad St., Newark 2, N. J.
Bellevue Industrial Furnace Co., Detroit, Mich.
Bellows Co., The, 230 W. Market St., Akron 3, Ohio.
Belmont Abrasives, 285 Newbury St., Boston 15, Mass.
Belmont Smelting & Refining Wks. Inc., 330 Belmont Ave., Brooklyn 7, N. Y.
Bemis Bros. Corp., 325 27th Ave., N.E., Minneapolis, Minn.
Ben-Nek Holder, Inc., 41 W. Main St., Branford, Conn.
Bendtin, Erwin, 77 Summer St., Boston 10, Mass.
Benjamin Elec. Mfg. Co., Northwest Highway & Seegers Rd., Des Plaines, Ill.
Chas. A. Bennett Co., Inc., 237 N. Monroe St., Peoria 3, Ill.
Bentley Weldery Inc., 410 Teall Ave. & Riegel St., P. O. Box 1038, Syracuse 1, N. Y.
Bergen Pipesupport Corp., 50 Church St., New York 7, N. Y.
Berger Mfg. Div. Republic Steel Corp., 1038 Belden Ave. N. E., Canton 5, Ohio.
Bernard Welding Equip. Co., 10222-34 Avenue N, Chicago 17, Ill.
Bernz Otto, Co., Inc., 280 Lyell Ave., Rochester 6, N. Y.
Beryllium Corp., The, Reading, Pa.
Besly-Welles Corp., Beloit, Wis.
Best Effect Chemical Co., 10 E. Lafayette St., Hackensack, N. J.
Bethlehem Steel Co., 701 E. 3rd St., Bethlehem, Pa.
Bierman-Everett Foundry Co., 133 S. 20th St., Irvington 11, N. J.
Big Three Welding Equip. Co., 3602 W. 11th St., P.O. Box 3047, Houston, Texas.
Billings & Spencer Co., The, 1 Laurel St., Hartford 1, Conn.
Bingrod Co., 633 Jackson St., Kalamazoo 7, Mich.
Binks Mfg. Co., 3114-40 Carroll Ave., Chicago 12, Ill.
Bird Gas Corporation, 12820 Evergreen Rd., Detroit 23, Mich.
Birdsell Mfg. Co., Inc., 750 San Antonio Rd., Palo Alto, Calif.
Birtcher Corp., 4371 Valley Blvd., Los Angeles 32, Calif.
Bissett Steel Co., 945 E. 67th St. Cleveland 3, Ohio.
Black & Decker Mfg. Co., The, 600 E. Penna Ave., Towson 4, Md.
Black Bros. Co., Inc., The, 501 Ninth Ave., Mendota, Ill.

Blackford Mfg. Co., Inc., 223 S. High St., Hartford City 1, Ind.
Blackhawk Mfg. Co., 5325 W. Rogers, Milwaukee 1, Wisc.
Blaw-Knox Co., Pittsburgh 30, Pa.
Blum, Julius, & Co., Inc., 432 W. 22nd St., New York 11, N. Y.
Bogue Electric Mfg. Co., 54 Iowa Ave., Paterson 3, N. J.
Bond, Charles, Co., 617-623 Arch St., Philadelphia 6, Pa.
Bonney Forge & Tool Works, 354 Green St., Allentown, Pa.
Borg-Warner Corp., Ingersoll Steel Div., 310 S. Michigan Ave., Chicago 4, Ill.
Borm Mfg. Co., 23 N. Union St., Elgin, Ill.
Boss Mfg. Co., The, 221 W. First St., Kewanee, Ill.
Boston Athletic Shoe Co., 25 Thorndike St., Cambridge 41, Mass.
Boston Woven Hose & Rubber Co., P. O. Box 1071, Boston 3, Mass.
Botfield Refractories Co., 796 S. Swanson St., Philadelphia 47, Pa.
Bowser, Inc., 1302 E. Creighton Ave., Ft. Wayne, Ind.
Boyd & Sons Mfg. Co., 1434-38 Callowhill St., Philadelphia 30, Pa.
Boyd Welding Supply Co., 160 E. 8th St., Erie, Pa.
Boyer-Campbell Co., 6540 St. Antoine St., Detroit 2, Mich.
Bradford Machine Tool Co., 657 Evans St., Cincinnati 4, Ohio.
Brandt Cabinet Works, Inc., Hagerstown, Md.
Branson Instruments, Inc., 430 Fairfield Ave., Stamford, Conn.
Braun, J. G., Co., 609 S. Paulina St., Chicago 12, Ill.
Brennen, Bucci & Weber, Inc., 262 Mott St., New York 12, N. Y.
Bridgeport Brass Co., 30 Grand St., Bridgeport 2, Conn.
Bridgeport Chain & Mfg. Co., The, 962 Crescent Ave., Bridgeport 1, Conn.
Bridgeport Safety Emery Wheel Co., Bridgeport, Conn.
Briggs Mfg. Co., Detroit 14, Mich.
Bristol Co., The, Waterbury 20, Conn.
Broderick & Bascom Rope Co., 4203 N. Union Blvd., St. Louis 15, Mo.
Brown & Sharpe Mfg. Co., 235 Promenade St., Providence 1, R. I.
Brown, W. R., Corp., 5720 W. Armitage Ave., Chicago 39, Ill.
Bruce Publishing Co., 400 N. Broadway, Milwaukee 1, Wisc.
Bruner Ivory Handle Co., Hope, Ark.
Brunner Mfg. Co., Inc., 1821 Broad St., Utica 1, N. Y.
Brush Development Co., 3405 Perkins Ave., Cleveland 14, Ohio.
Bryant Heater Co., Industrial Div., Cleveland, Ohio.
Buck Mfg. Co., 120 Roberts Rd., Los Gatos 13, Calif.
Buckeye Oxygen Co., 801 First Natl. Bldg., Canton 2, Ohio.
Buckeye Tools Corp., P. O. Box 966, Dayton 1, Ohio.
Buda Co., 154th & Commercial Ave., Harvey, Ill.
Buegeleisen, Harry, Inc., 183 Pacific St., Brooklyn 2, N. Y.
Buehler, Ltd., 165 W. Wacker Dr., Chicago 1, Ill.
Buffalo Bolt Co., 101 East Ave., No. Tonawanda, N. Y.
Buffalo Fire Appliance Corp., 221 Crane St., Dayton 1, Ohio
Buffalo Forge Co., 490 Broadway, Buffalo 5, N. Y.
Bullard, E. D., Co., 275 8th St., San Francisco 3, Calif.
Bullock, L. H., Co., Inc., 22 8th St., Richmond, Calif.
Bundy Tubing Co., 8109 E. Jefferson Ave., Detroit 14, Mich.
Bunell Machine & Tool Co., 1601 E. 23rd St., Cleveland 14, Ohio
Bunting Brass & Bronze Co., The, 715 Spencer St., Toledo 9, Ohio
Burdett Oxygen Co., 3330 Lakeside Ave., Cleveland 14, Ohio.
Burdett Oxygen Co. of Calif., 2014 Belgrave Ave., Huntington Park, Calif.
Burgess Parr Co., Freeport, Ill.
Burklyn Co., The, 3429 Glendale Blvd., Los Angeles, Calif.
Burndy Engrg. Co., Inc., Boston Post Road and Richards Ave., Norwalk, Conn.
Butterfield Div., Union Twist Drill Co., Derby Line, Vt.

C

C. B. Tool Co., Box 94, Lancaster, Pa.
C B C Welding Corp., 422 E. 102nd St., New York 29, N. Y.
C-O Two Fire Equip. Co., P. O. Box 390, U. S. Highway 1, Newark 1, N. J.
Cabot, Samuel, Inc., 151 Milk St., Boston 9, Mass.
Caddy Arc Welding Accessory Div., Erico Products, Inc., 2070 E. 61st Place, Cleveland 3, Ohio
Calder Mfg. Co., 630 N. Prince St., Lancaster, Pa.
Calf-Teria Sales Inc., 1125 Polk St., Ft. Wayne 7, Ind.
California Air Products, Huntington Park, Los Angeles, Calif.
California Oxygen Co., Box 37, Town & Country Branch, Sacramento 21, Cal.
California Welding Supply, 405 N. Lincoln, Stockton, Calif.
Cam-Lok Div., Empire Prod. Inc., P. O. Box 98, Cincinnati 36, Ohio
Cambell Machine Div. of American Chain & Cable Co., Inc., 929 Connecticut Ave., Bridgeport 2, Conn.
Campbell, J. A., Co., 645 E. Wardlow Rd., Long Beach 7, Calif.
Canadian Radium & Uranium Corp., 630 5th Ave., New York 20, N. Y.
Candee-Smith Governors, 2641 S. Hill St., Los Angeles 7, Calif.
Candor Glove Co., W. McCarthy St., Candor, N. Y.
Canton Alloys, Inc., 2154 Bolivar Road, S.W., Canton 6, Ohio
Capewell Mfg. Co., 60 Governor St., Hartford 2, Conn.
Carbide & Carbon Chemicals Div., Carbide & Carbon Corp, 30 E. 42nd St., N. Y. 17, N. Y.
Carbaloy Department, General Electric Co., 11177 E. Eight Mile Road, Detroit 32, Mich.
Carborundum Co., The, Buffalo Ave., Niagara Falls, N. Y.
Card, S. W., Mfg. Co., Div. of Union Twist Drill Co., Rumford Ave., Mansfield, Mass.
Cardinal Machine Co., 109 S. Jackson St., Glendale 5, Calif.
Carey, Philip, Mfg. Co., Lockland, Cincinnati 15, Ohio
Carhoff Co., 9321 Buckeye Rd., Cleveland 4, Ohio
Carlson Mfg. Co., 195 W. Carson St., Pittsburgh 19, Pa.
Carlson Rules & Measures, Henry Disston Div., 1617 S. California Ave., Monrovia, Calif.
Carnegie-Illinois Steel Corp., 434 Fifth Ave., Carnegie Bldg., Pittsburgh 30, Pa.
Carpenter Products, Inc., 85 Washburn St., Bridgeport, Conn.
Carpenter Steel Co., The, Front & Bern Sts., Reading, Pa.
Carson-Newton Co., 61-71 Mill St., Belleville 9, N. J.
Cash, A. W., Valve Mfg. Corp., Wabash & Morgan Sts., Decatur, Ill.
Castaloy Corp., 197 S. Waterman, Detroit 17, Mich.
Castle, A. M. & Co., 1132 W. Blackhawk St., Chicago 22, Ill.
Cauhorn Mfg. Co., 9999 Broadstreet, Detroit 4, Mich.
Cayuga Machine & Fabricating Co., Depew-Buffalo, N. Y.
Central Sales Corp., 20 North Wacker Dr., Chicago 6, Ill.
Central Steel & Wire Co., 3000 W. 51st St., Chicago 32, Ill.
Ceramic Cups, Inc., Mineola, L. I., N. Y.
Chain Belt Co., 1600 W. Bruce St., Milwaukee 4, Wis.
Challenge Machinery Co., The, Grand Haven, Mich.
Champion Blower & Forge Co., Charlotte St. & Harrisburgh Pike, Lancaster, Pa.
Champion DeArment Tool Co., S. Main St., Meadville, Pa.
Champion Lamp Works, 600 Broad St., Lynn, Mass.
Champion Pneumatic Machinery Co., 8156 S. Chicago Ave., Chicago 17, Ill.
Champion Rivet Co., The, Harvard & E. 108th St., Cleveland 5, Ohio
Chanite Sales Co., 321 Arizona Ave., Fort Worth 3, Tex.
Chappel, L. H. & Co. 1137 Post Rd., Fairfield, Conn.
Chase Brass & Copper Co., 236 Grand St., Waterbury 20, Conn.
Chatham Electronics, Div. of Gera Corp., Livingston, N. J.
Chek-Shock Mfg. Co., Fowler, Calif.
Chelsea Fan & Blower Co., Inc., 639 South Ave., Plainfield, N. J.
Chemical Corp., The, Springfield 9, Mass.
Chemical Publishing Co., Inc., 26 Court St., Brooklyn 2, N. Y.
Chemical Research Associates, 333 N. Michigan Ave., Chicago, Ill.
Chester Hoist Div., The National Screw & Mfg. Co., P. O. Box 362, Lisbon, Ohio
Chicago Blower Corp., 9867 Pacific Ave., Franklin Park, Ill.
Chicago Boiler Co., 1965 Clybourn Ave., Chicago 14, Ill.
Chicago Bridge & Iron Co. 332 S. Michigan Ave., Chicago, Ill.
Chicago Eye Shield Co., 2300 Warren Blvd., Chicago 12, Ill.
Chicago Hardware Foundry Co., 2500 Commonwealth Ave., N. Chicago, Ill.
Chicago Latrobe Twist Drill Works, 411 W. Ontario St., Chicago 10, Ill.
Chicago Mfg. & Dist. Co., 1928 W. 46th St., Chicago 9, Ill.
Chicago Pneumatic Tool Co., 6 E. 44th St. New York 17, N. Y.
Chicago Rawhide Mfg. Co., 1286 Elston Ave, Chicago 22, Ill.
Chicago Rubber Co., 2620 N. Clybourn Ave., Chicago, Ill.
Chicago Steel & Wire Co., 10257 S. Torrence Ave., Chicago 17, Ill.
Chicago Tool and Engrg. Co., 8383 S. Chicago Ave., Chicago 17, Ill.
Chicago Welding Sales Co., 3349 W. Ogden Ave. Chicago 23, Ill.
Chicago Wheel & Mfg. Co., 1101 W. Monroe St., Chicago 7, Ill.
Chisholm-Moore Hoist Corp., Fremont Ave., Tonawanda, N. Y.
Chrysler Corp., Third Natl. Bank Bldg., Dayton 2, Ohio
Cia. Productora De Oxigeno, S. A., Apartado 318, 5 De Mayo 1175 Pte. Monterrey, N. L., Mexico
Cinch Mfg. Corp., Howard B. Jones Div. 2460 W. George St., Chicago 18, Ill.
Cincinnati Elec. Tool Co., Madison & Edwards Rd., Cincinnati 8, Ohio
Cincinnati Tool Co., 1944 Waverly Ave., Cincinnati 12, Ohio
Cincinnati Milling Machine Co., The Cincinnati Grinders Inc., 4701 Marburg Ave., Cincinnati 9, Ohio
Cirod Distributing Co., 7950 W. 47th St., Lyons, Ill.
City Tank Corp. 53-09 97th Pl., Corona, L. I., N. Y.
Clarage Fan Co., N. & Porter Sts., Kalamazoo 16, Mich.
Clare, C. P. & Co., 4719 W. Sunnyside Ave., Chicago 30, Ill.
Clark, Robert H. Co., 9330 Santa Monica Blvd., Beverly Hills, Calif.
Clark Controller Co., The, 1146 E. 152nd St., Cleveland 10, Ohio
Clark, James, Jr., Electric Co., 645 Bergman St. Louisville 3, Ky.
Clayton & Lambert Mfg. Co., 1701-1715 Dixie Highway, Louisville 10, Ky.
Clayton-Sherman Abrasives Co., 3896 Lonyo Rd., Detroit 10, Mich.
Cleco Div., Reed Roller Bit Co., 5125 Clinton Drive, P. O. Box 2119, Houston 20, Texas.
Clementina Ltd., 2277 Jerrold Ave., San Francisco 24, Calif.
Clements Mfg. Co., 6656 S. Narragansett Ave. Chicago 38, Ill.
Clemson Bros., Inc., 22 Cottage St., Middletown, N. Y.
Cleveland Chain & Mfg. Co., Broadway & Henry Sts., Cleveland 5, Ohio
Cleveland Crane & Engrg. Co., Wickliffe, Ohio
Cleveland Electric Motor Co. 5213 Chester Ave., Cleveland 3, Ohio
Cleveland Precision Ring & Products Co., 4501 Prospect Ave., Cleveland 3, Ohio
Cleveland Quarries Co., The, 1740 E. Twelfth St., Cleveland 14, Ohio
Cleveland Tungsten, Inc., 10200 Meech Ave., Cleveland 5, Ohio
Cleveland Twist Drill Co., The, 1242 E. 49th St., Cleveland 14, Ohio
Climax Molybdenum Co., 500 Fifth Ave., New York 36, N. Y.
Clinch Mfg. Corp., 2460 W. George St., Chicago 18, Ill.
Clinton Machine Co., Warner Div., 21535 Groesbeck Highway, Detroit 5, Mich.
Clinton Prod. Co., 701 Tecumseh Rd., Clinton, Mich.
Clizbe Bros. Mfg. Co., W. Harrison St., Plymouth Ind.
Clover Mfg. Co., 327 Main St., Norwalk, Conn.
Coast Metals Inc., P. O. Box 7, Little Ferry, N. J.
Coast Pneumatic Tool Co., 1827 Elcerrito Place, Los Angeles 28, Calif.
Cobb, R. L., 56 Euclid Ave., Willoughby, Ohio
Coffing Hoist Co., 800 Walters St., Danville, Ill.
Cogmatic Co., 1330 N. Franklin Pl., Milwaukee Wis.
Cogsdill Twist Drill Co., 12950 W. Eight Mile Road, Box 97, College Park Sta., Detroit 21, Mich.
Collins-Edmonds Inc., 4041 Ridge Ave., Philadelphia, Pa.
Collmer Bros., 420 S. St. Joseph St., So. Bend 1, Ind.
Collyer Insulated Wire Co., Inc., 249 Roosevelt Ave., Pawtucket 1, R. I.
Colonial Abrasive Products Co., 6th & Harry Sts., Conshohocken, Pa.
Colonial Alloys Co., Ridge Ave. & Crawford Sts., Philadelphia 29, Pa.
Colonial Leather Co., 622 W. Oregon St., Milwaukee 4, Wisc.
Colorado Fuel & Iron Corp. Continental Oil Building, 1755 Glenarm Place, Denver 1, Colo.
Columbia Chemical Products Co., 553 Beaufait, Detroit 7, Mich.
Columbia Electric Mfg. Co., 4519 Hamilton Ave., Cleveland 14, Ohio
Columbia Machinery & Engineering Corp., Hamilton, Ohio
Columbia Steel Co., Subsidiary, U. S. Steel Corp., Russ Bldg., 235 Montgomery St., San Francisco 6, Calif.
Columbian Vise & Mfg. Co. 9021 Bessemer Ave., Cleveland 4, Ohio
Columbus Anvil & Forging Co., 117 W. Frankfort St., Columbus 16, Ohio
Columbus McKinnon Chain Corp., 120 Freemont St., Tonawanda, N. Y.
Combustion Cortrol Corp., 77 Broadway, Cambridge 42, Mass.
Commercial Gas Corp., P. O. Box 348, 111 Scott St., Wilkes-Barre, Pa.
Commercial Shearing & Stamping Co., The, Youngstown, Ohio
Commonwealth Prods. Co. de Mexico, S. A., Ave. Morelos No. 67, Mexico, D. G.
Compania Mexicana AGA, SA., Claviiero 40, Apartado Postal No. 1474, Mexico 1, D. F.
Compania Mexicana De Soldaduro Autogena, S. A., Ave. Morelos No. 76-A, Apartado Postal 7295, Mexico, D. F.
Compressed Gas Assn., Inc., 11 W. 42nd St., New York 36, N. Y.
Compressed Gas Cylinders, Inc. 2909 E. 54th St., Vernon, Calif.
Conco Engrg. Works, 50 West St., Mendota, Ill.
Conical Tool Co., 443 Division South, Grand Rapids 3, Mich.

Connor Steel Products, 24690 Telegraph Rd., Detroit 19, Mich.
Continental Gin Co., Industrial Div., Birmingham, Ala.
Continental Industrial Engineers' Co., Inc., 176 W. Adams St., Chicago 3 Ill.
Contour Marker Corp., 1843 E. Compton Blvd., Compton, Calif.
Cook's Adam, Sons, Inc., 5 Stiles St., Linden, N. J.
Cooley Electric Mfg. Corp., 38 S. Shelby St., Indianapolis 7, Ind.
Cooper Alloy Corp., Hillside 5, N. J.
Copco Eastern, P. O. Box 2568, Paterson, N. J.
Copperloy Corp., 4103 Brookpark Rd., Cleveland 29, Ohio
Coppus Engineering Corp., 344 Park Ave., Worcester 2, Mass.
Cornell-DuBilier Electric Corp., Hamilton Blvd., South Plainfield, N. J.
Cornell Maritime Press, Cambridge, Md.
Corning Glass Works, Corning, N. Y.
Corpus Christi Oxygen Co., 2827 Agnes St. Corpus Christi, Texas.
Cortland Grinding Wheels Corp., 1 Huntington St., Chester, Mass.
Cortland Sales & Products, Inc., Pearl St., Cortland, Ohio.
Couse Manufacturing, Inc., 300 Passaic St., Newark 4, N. J.
Cowles Detergent Co., 7016 Euclid Ave., Cleveland 3, Ohio.
Coyne Chemical Co., 155 W. Bodley Ave., Memphis, Tenn.
Coyne Cylinder Co., 200 Paul Ave. San Francisco 24, Calif.
Craftsweld Equip Corp., 2626 Jackson Ave., Long Island City 1, N. Y.
Cramer, R. W., Co., Inc., 1941 Plant St., Centerbrook, Conn.
Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.
Cratex Mfg. Co. 81 Natoma St., San Francisco 5, Calif.
Crescent Co., Inc., The, Carol Cable Div., Pawtucket, R. I.
Crescent Insulated Wire & Cable Co., Trenton, N. J.
Crescent Tool Co., 200 Harrison St., Jamestown 4, N. Y.
Crobalt, Inc., 2800 S. State St., Ann Arbor 1, Mich.
Crouse Hinds Co., Wolf & 7th N. St., Syracuse, N. Y.
Crucible Steel Co. of America, Henry W. Oliver Bldg., Mellon Sq., Pittsburgh, Pa.
Cullen-Friestedt Co., 1300 S. Kilbourn Ave., Chicago 23, Ill.
Culver Glass Specialties, Inc., 28 St. Marks Place, New York 3, N. Y.
Cumming Tools, Inc., 501-03 E. 18th St., Kansas City 8, Mo.
Cummins-Chicago Corp., 4740 Ravenswood, Chicago 40, Ill.
Cuneo Press Inc., 22nd, Canal & Grove Sts., Chicago 16, Ill.
Curtis Machine Co., 1300 E. 2nd St., Jamestown, N. Y.
Curtis Pneumatic Machinery Div. of Curtis Mfg. Co., 1905 Kienlen Ave., St. Louis 20, Mo.
Custanite Corp., 1228 Utica Ave., Brooklyn 3, N. Y.
Cut-O-Guide Sales Co., 1900 Euclid Ave., Cleveland 15, Ohio.
Cutler Hammer, Inc., 507 N. 12th St., Milwaukee 1, Wisc.
Cutter Machine Co. 3723 Commonwealth Ave., St. Louis 17, Mo.

D

D-V Welding Controls, 815 Soto St., Hayward, Calif.
Dahlstrom Mfg. Co., 2520 West Larpenteur Ave., St. Paul 8, Minn.
Dalweld Co., 1 Bertel Ave., Mount Vernon, N. Y.
Damascus Steel Prods. Corp., 2215 Kiswaukee St., Rockford, Ill.
Daniels, C. R., Inc., 75 West St., New York N. Y.
Danly Machine Spec., Inc., 2100 S. 52nd St., Chicago 50, Ill.
Darling Valve & Mfg. Co., Ft. of Walnut St., Williamsport, Pa.
Darwin & Milner, Inc., 1260 W. 4th St., Cleveland, Ohio.
Davies & Son, Inc., 1416 Westwood Blvd. Los Angeles 24, Calif.
Davis Emergency Equip. Co., Inc., 45 Halleck St., Newark 4, N. J.
Davis Regulator Co., 2544 S. Washtenaw Ave., Chicago 8, Ill.
Dayton Chemical Products Laboratories, Inc., West Alexandria, Ohio
Dayton Grinding Wheel Co., 1101 Negley Pl., Dayton, Ohio.
Dayton Rogers Mfg. Co., Minneapolis 7 Minn.
DeBothezat Fans Div., Amer. Machine & Metals, Inc., E. Moline, Ill.
Delaware Tool Steel Corp., Wilmington 99, Del.
Delta File Works, Inc., 4837 James St., Philadelphia 37, Pa.
Delta Oxygen Co., 611 Court Ave., Memphis 7, Tenn.
Delta Power Tool Div. of Rockwell Mfg. Co., 620 E. Vienna Ave., Milwaukee 1, Wis.
Delta Welder Corp. 8525 Livernois, Detroit 4, Mich.
Dennis Chemical Co., 2701 Papin St., St. Louis 3, Mo.
Denver Oxygen Co., Inc., 1160 10th St., Denver 1, Colo.
DeSanno, A. P. & Son, Inc., Wheatland St., Phoenixville, Pa.
Desmond Stephan Mfg. Co., 317 S. Walnut St., Urbana, Ohio.
Despatch Oven Co., 619 Eight St., S. E. Minneapolis 14, Minn.
Detroit Electrode Holders Mfg. Co., 3437 Book Bldg., Detroit, Mich.
Detroit Electronic Products Co., 19929 Exeter Ave., Detroit 3, Mich.
Detroit First Aid Co., 6335 Grand River Ave., Detroit 8, Mich.
Detroit Hoist & Machine Co., 8300 Morrow St., Detroit 11, Mich.
Detroit Stamping Co., 372 Midland Ave. Detroit 3, Mich.
Detroit Surfacing Machine Co., 1333 East Eight Mile Road, Detroit 20, Mich.
Detroit Testing Machine Co., 9390 Grinnell Ave., Detroit 13, Mich.
Deutschman Corp., Canton, Mass.
DeVilbiss Co., 300 Phillips Ave., Toledo 1, Ohio.
DeWalt, Inc., Fountain Ave., Lancaster, Pa.
Diamalloy Co., The P.O. Box 190, Gowanda, N. Y.
Diamond Alkali Co., Oliver Bldg., Pittsburgh 22, Pa.
Diamond Mechanical Goods, Div. of The B. F. Goodrich Co., 444 S. Main St., Akron, Ohio.
Diamond Saw Works, Inc., 265 Court St., Buffalo 2, N. Y.
Diamonite Products Div., The United States Ceramic Tile Co., 217 Fourth St., N.E., Canton, Ohio.
Dice J. W., Co., 1 Eagle St., Englewood, N. J.
Dico Corp., 200 Southwest 16th St., Des Moines 5, Ill.
Diener, Geo. W., Mfg. Co., 400 Monticello Ave., Chicago 24, Ill.
Die Typing Corp., 419 Book Bldg., Detroit 26, Mich.
Diesel Power Inc., P.O. Box 72, Greenville, Pa.
Dill Mfg. Co., 700 E. 82nd St., Cleveland 3 Ohio.
Dillon W. C., & Co., Inc., 14620 Keswick, Van Nuys, Calif.
Dings Magnetic Separator Co., 4740 W. Electric Ave., Milwaukee 14, Wis.
Disston, Henry Div., Unruh & Milnor Sts., Tacony, Philadelphia 35, Pa.
Diversey Corp., The Metal Industries Dept., 1820 W. Roscoe St., Chicago 13, Ill.
Divine Bros. Co., 200 Seward Ave., Utica 1, N. Y.
Division Lead Co., 7742 West 61st Place, Summit, Ill.
Dixon, Joseph Crucible Co., 167 Wayne St., Jersey City 2, N. J.
Dixon Valve & Coupling Co., Hancock St. & Columbia Ave., Philadelphia 22 Pa.
DoAll Co., 245 N. Laurel Ave., DesPlaines, Ill.
Dockson Corp., 3867 Wabash Ave., Detroit 8, Mich.
Dodge Mfg. Corp., 500 S. Union St., Mishawaka, Ind.
Dollinger Corp., 11 Centre Park, Rochester 3, N. Y.
Dolph, John C., Co., 1060 Broad St., Newark 2, N. J.
Dominion Bridge Co., Ltd., P. O. Box 280 Lachine (Montreal), Quebec, Canada.
Donnelley, R. R., & Sons, 350 E. Cermak, Chicago 16, Ill.
Doughty Laboratories, Inc., 500 Fifth Ave., New York 36, N. Y.
Douglas Pipe Machine Co., 412 South California St., Monrovia Calif.
Dow Chemical Co., 1014 Jefferson Ave., Midland, Mich.
Downs Crane & Hoist Co., The, 540 W. Vernon Ave., Los Angeles 37, Calif.
Drake, Frederick J., & Co., 117 Green Bay, Wilmette, Ill.
Drawalloy Corp., Lincoln Hway West at Alloy St., York, Pa.
Dremel Mfg. Co., 2420 18th St., Racine, Wis.
Drennan, Lee J., Inc., 430 W. Main St., Arcade, N. Y.
Dresser Industries, Inc., Terminal Tower, Cleveland 13, Ohio
Dresser Mfg. Div., 51 Fisher Ave., Bradford, Pa.
Driver-Harris Co., Harrison, N. J.
Dudgeon, Richard, Inc., 24 Columbia St., New York 2, N. Y.
Duff Norton Mfg. Co., The, 2709 Preble Ave., Pittsburgh 30, Pa.
Dumore Co., 1300 Seventeenth St., Racine Wis.
du Mont Corp., The, Greenfield, Mass.
Dunn Products, 1216 W. Madison St., Chicago, Ill.
du Pont de Nemours, E. I. & Co., Inc., Wilmington 98, Del.
du Pont de Nemours, E. I. & Co., Inc., Grasselli Chemicals Dept., Wilmington 98, Del.
du Pont de Nemours, E. I. & Co., Inc., Pattern Screen Div., Towanda, Pa.
du Pont de Nemours, E. I. & Co., Inc., Photo Products Dept. Wilmington 98, Del.
Duquesne Electric & Mfg. Co., Pittsburgh 6, Pa.
Dur-a-Bilt Products, Inc., Box 1, Sussex, Wis.
Duracote Corp., Ravenna, Ohio
Durbin Durco, 6611 Oliver St. Rd., St. Louis 5, Mo.
Duro-Dyne Corp., 800 Third Ave., New Hyde Park, N. Y.
Duro Engineering Co., 41 Oregon Ave., Hamden, Conn.
Duro Metal Products Co., 2649 N. Kildare Ave., Chicago 39, Ill.
Dye Oxygen Co., Inc., P. O. Box 6276, Phoenix, Ariz.
Dymonhard Corp., 250 W. 57th St., New York 19, N. Y.

E

Eagle Mfg. Co., 24th & Charles St., Wellsburg W. Va.
Eagle Picher Co., The, American Bldg., Cincinnati 1, Ohio
Eagle Welding Equipment Co., 5085 Broadway, Chicago 40, Ill.
Eastern Equipment Co., Inc., 44 Terwood Road, P. O. Box 897, Willow Grove, Pa.
Eastern Safety Equipment Co., The, 27-06 43rd Ave., L. I., N. Y.
Eastern Stainless Steel Corp., Box 1975, Baltimore 3, Md.
Eastern Tool & Mfg. Co., 1 Montgomery St., Belleville 9, N. J.
Eastman Kodak Co., 343 State St., Rochester 4, N. Y.
Eaton Mfg. Co., Wilcox Rich Div., Detroit, Mich.
Ebert Electronics Corp., 212-26 Jamaica Ave., Queens Village 28, N. Y.
Eccles & Davies Machinery Co., Inc., 1910 Sante Fe Ave., Los Angeles 21, Calif.
ECCO High Frequency Corp., 7020 Hudson Blvd., North Bergen, N. J.
Eclipse Fuel Engineering Co., 711 S. Main St., Rockford, Ill.
Edward Valves, Inc., 1200 W. 145th St., East Chicago, Ind.
Eisler Engrg. Co., Inc., 738-758 South 13th St., Newark 3, N. J.
Eitel-McCullough, Inc., 1570 San Mateo Ave., San Bruno, Calif.
Elastic Stop Nut Corp. of Amer., Union, N. J.
Electric Arc, Inc., 152-62 Jelliff Ave., Newark 8, N. J.
Electric Auto-Lite Co., Champlain-Mulberry Sts., Toledo 1, Ohio
Electric Blower Co., 352 Atlantic Ave., Boston 10, Mass.
Electric Controller & Mfg. Co., 2700 E. 79th St., Cleveland 4, Ohio
Electric Hose & Rubber Co., 12th & Dure Sts. Wilmington 99, Del.
Electric Machinery Mfg. Co., 1331 Tyler St., N. E., Minneapolis 13, Minn.
Electric Soldering Iron Co., Inc., W. Elm St., Deep River, Conn.
Electric Storage Battery Co., The, 19th St. & Allegheny Ave., Philadelphia 32, Pa.
Electric Welding Machine Co., 9635 French Rd. Detroit, Mich.
Electrical Industries, Div. Amperex Electronic Corp., 44 Summer Ave., Newark 4, N. J.
Electron-Arc, Inc., 210 Broad St., Lynn, Mass.
Electro Cover Glass Co., Inc., 110 18th St., Sharpsburg Br., Pittsburgh 15, Pa.
Electro Refractories & Abrasives Co., 344 Delaware Ave., Buffalo 2, N. Y.
Electrocircuits, Inc. 401 E. Green St., Pasadena 1, Calif.
Electroloy Co., Inc., The, 1600 Seaview Ave., Bridgeport 8, Conn.
Electrons, Inc., 127 Sussex Ave., Newark 4, N. J.
Electronics Corp. of America, Photoswitch Div., 77 Broadway, Cambridge 42, Mass.
Elematic Equip. Corp., 6731-A S. Chicago Ave., Chicago 37, Ill.
Elliott Glove Co., Inc., 127 Huron Ave., Oconto, Wis.
Elliott Mfg. Co., 350 State St., Binghamton, N. Y.
Ellison Mfg., Box 131, Mediapolis, Ia.
Ellwood Products Corp., Ellwood City, Pa.
Emco Pneumatic Corp., 1317-19 Locust St., Des Moines, Ia.
Emerson Elec. Mfg. Co., 8100 Florissant Ave., St. Louis 21, Mo.
Engwald Corp., 357 Lafayette Ave., Brooklyn 38, N. Y.
Ergolyte Mfg. Co., 3626 N. Lawrence St., Philadelphia 40, Pa.
Erico Products, Inc., 2070 E. 61st Place Cleveland 3, Ohio.
Essex Brass Corp., 2000 Franklin St., Detroit 7, Mich.
Eutectic Welding Alloys Corp., 172 St. & Northern Blvd., Flushing 58, N. Y.
Evanston Equipment Co., 33 Warren St., Newark 2, N. J.
Ever-Tite Alloy Corp., 1-3 Bleeker St., New York, N. Y.
Ewald Instruments, 93 Nassau St., New York 38 N. Y.
Expert Welding Machine Co., 17144 Mt. Elliott St., Detroit 12, Mich.

F

F.T.S. Corp., 309 Vine St., Camden 2, N. J.
Fairbanks-Morse & Co., 610 S. Michigan Ave., Chicago 5, Ill.
Fairmont Tool & Forging Co., 10611 Quincy Ave., Cleveland, Ohio.
Falcon Equipment Co., 13th St., New Brighton, Pa.
Famco Machine Co. 1336 18th St., Racine, Wis.
Fansteel Metallurgical Corp., 2200 Sheridan Rd., North Chicago, Ill.
Far-Ex Corp., 75 West St., New York, N. Y.
Farrelloy Co., 1243-45 N. 26th St., Phila. 21, Pa.
Farris Engineering Co., 400 Commercial Ave., Palisades Park, N. J.
Faulk, F. R., Equipment Sales, 13 Wabash Ave., Pittsburgh 20, Pa.
Fauver J. N., Co., Inc., 49 W. Hancock Ave., Detroit 1, Mich.
Federal Electric Prods. Co., 50 Paris St., Newark 5, N. J.

Federal Machine & Welder Co., The, Overland Ave., Warren, Ohio
Federal Telephone & Radio Corp., 100 Kingsland Road, Clifton, N. J.
Federal Tool Engineering Co., 1384 Pompton Ave., Cedar Grove, N. J.
Fendall Co., 4631 Northwestern Ave., Chicago 25, Ill.
Fenway Machine Co. Edgemont & Clementine St., Philadelphia 34, Pa.
Ferguson Machine & Tool Co., Roller Gear Div., P. O. Box 191, St. Louis 21, Mo.
Ferrara, Inc., 8106 W. Nine Mile Rd., Oak Park 37, Mich.
Ferro Corp., 4150 E. 56th St., Cleveland 5, Ohio.
Fibre Abrasive Corp., 1129 E. 74th St., Chicago 19, Ill.
Fibre-Metal Prod. Co., The, 5th & Tilghman Sts. Chester, Pa.
FIM Inc., 170 Fifth Ave., New York 10, N. Y.
Fire Gun Sales Corp., 2500 W. 7th Ave., Denver 4, Colo.
Firth Sterling, Inc., 3113 Forbes St., Pittsburgh 30, Pa.
Fish-Schurman Corp., 230 E. 45th St., N. Y. 17, N. Y.
Fisher & Norris (Eagle Anvil Wks), 37-45 Bloomsbury St., Trenton 1 N. J.
Flame Cutting Equipment Co., Box 455, Dania, Fla
Flexaust Co., 100 Park Ave., New York 17, N. Y.
Flexonics Corp., 1315 S. Third Ave., Maywood, Ill.
Flexweld Mfg. Co., Depot St., Buckland, Conn.
Flint Products Co., 2925 Ave. H., Brooklyn 10, N. Y.
Flood Safety Prod. Co., 3035 W. Lake St., Chicago 12, Ill.
Flux-All Chemical Products, 4018 10th Ave., New York 34, N. Y.
Foley Mfg. Co., 3300 Fifth St., N. E., Minneapolis 18, Minn.
Foote Mineral Co., 18 W. Chelten Ave., Philadelphia 44, Pa.
Ford, J. B., Wyandotte, Mich.
Ford, M. A., Mfg. Co., Inc., 864 W. River St. Davenport, Ia.
Ford Chain Block Div. of American Chain & Cable Co., Inc., 1100 E. Princess St., York, Pa.
Ford Steel Co., 5051 Pattison Ave., St. Louis 10, Mo.
Foredom Electric Co., 27 Park Place, New York 7, N. Y.
Forney Mfg. Co., 1800 La Porte Ave., Fort Collins, Colorado.
Foster Alum. Alloy Prod. Corp., 45 Pearl St., Forestville 13 N. Y.
Foster Transformer Co., 3820 Colerain Ave., Cincinnati 23, Ohio.
Foster Wheeler Corp., 165 Broadway, New York 6, N. Y.
Fox Grinders, Inc., Oliver Bldg., Pittsburgh, Pa.
Franklin Transformer Mfg. Co., 65 22nd Ave., N.E., Minneapolis 18, Minn.
Frasse, Peter A., & Co., Inc. 17 Grand St., New York 17, N. Y.
Frederick Gumm Chemical Co., Inc. 538 Forest St., Kearney, N. J.
Friez Instrument Div. of Bendix Aviation Corp., Taylor Ave. & Lock Haven Blvd., Baltimore 4, Md.
Frommelt Industries, P. O. Box 165, Dubuque, Iowa
Frostrode Div. of Viking Products, 3066 E. Outer Drive, Detroit 34, Mich.
Fruehauf Trailer Co., 10940 Harper Ave., Detroit 32, Mich.
Fuller, G. C., Mfg. Co., 1621 Central Ave., Cincinnati 14, Ohio.
Fusion Engineering, 4504 Superior Ave., Cleveland 3, Ohio.

G

Gallup Ruffing Handle Co., St. Mary's St., Norwalk, Ohio.
Galland-Henning Mfg. Co., 2741 S. 31st St., Milwaukee 46, Wis.
Galv-Weld Products 324 East Second St., Dayton, Ohio.
Gamma Corp., The, Mansfield, Mass.
Gar-Bro. Mfg. Co., 2416 E. 16th St., Los Angeles 21, Calif.
Garden City Industries, Inc., 900 W. Jackson Blvd., Chicago, Ill.
Gardner Denver Co., Quincy, Ill.
Garibay Mfg. Co., 1517 Colegrove Ave., Montebello, Calif.
Garrett, George K., Co., Inc., Tioga & D Sts., Philadelphia 34, Pr.
Gas Appliance Service, Inc., 1211 Webster Ave., Chicago 14, Ill.
Gas Arc Supply, 223-25 N. 16th St., Philadelphia 2, Pa.
Gases Industriales, S.A., Apartado Postal Numero 295, San Luis, Potosi, S.L.P., Mexico.
Gasflux Co., The, 141 N. Logan St., Elyria, Ohio.
Gaso Equipment Co., 3253 N. Kedzie Ave., Chicago 18, Ill.
Gaspro, Ltd., P. O. Box 2454, Honolulu 4, T. H.
Gaston Power Tools, Inc., 14829 Loomis St., Harvey, Ill.
Gasweld Equipt. Co., 3100 S. Kedzie, Chicago, Ill.
Gates Rubber Co., The, 999 S. Broadway, Denver 17, Colorado.
Gellid Engineering Corp., 20 Lake St., Oak Park, Ill.
Gem Mfg. Co., 1229-1243 Goebel St., Pittsburgh 12, Pa.
General Aniline & Film Co., Ansco Div., Binghamton, N. Y.
General Blower Co., 8608 Ferris Ave., Morton Grove, Ill.
General Cable Corp., 420 Lexington Ave., New York 17, N. Y.
General Ceramics Corp., Chemical Equipment Div., Keasbey, N. J.
General Detroit Corp., 2272 E. Jefferson Ave., Detroit 7, Mich.
General Electric Co., 1 River Rd., Schenectady 5, N. Y.
General Electric Co., 4855 Electric Ave., Milwaukee, Wis.
General Electric Co., Welding Dept., York, Pa.
General Pacific Corp., 1800 S. Hooper Ave., Los Angeles 21, Calif.
General Propane Gas Corp., 189 Third St., Mineola, N. Y.
General Refractories Co., 1600 Real Estate Bldg., Philadelphia 7, Pa.
General Scientific Equip. Co., 27th & Huntingdon Sts., Philadelphia 32, Pa.
General Welding & Equip. Co., 268 Northampton St., Boston 18, Mass.
General Welding Co., Schoenersville Rd., Bethlehem, Pa.
General Welding Corp., 7404 Euclid Ave., Cleveland 3, Ohio.
Generant Engineering Co. 260 S. 20th St., Newark 3, N. J.
Genter, C. D. & Co., 2109 Broad St., Chattanooga, Tenn.
Georator Corp., Manassas, Va.
Gleason Corp., 3043 N. 30th St., Milwaukee 10, Wisc.
Glendale Optical Co., Inc., 600 W. Merrick Rd., Valley Stream, L. I., N. Y.
Goggle Parts Co., The, Cleveland, Ohio.
Golden Rod Equip. Co., 617 Montgomery St., San Francisco 11, Calif.
Goldsmith Bros. Smelting & Refining Co., 1300 W. 59 St., Chicago 36, Ill.
Goodall Rubber Co., Whitehead Rd., Trenton 4, N. J.
Goodell Pratt Co. Div. of Millers Falls Co., 57 Wells St., Greenfield, Mass.
Goodheart-Willcox Co., 1321 S. Michigan Ave., Chicago 5, Ill.
Goodrich, B. F., Co., 500 S. Main St., Akron 11, Ohio.
Goodrich Welding Equipment Corp., Hudsonville, Mich.
Goodyear Tire & Rubber Co., Inc., 1144 E. Market St., Akron 16, Ohio.
Gordon, Claud S., Co., 3000 S. Wallace St., Chicago 16, Ill.
Gorham Tool Co., 1440 Woodrow Wilson St., Detroit, Mich.
Goss Gas, Inc., Route No. 8, Glenshaw, Pa.
Gouran, Mark F., Inc., 7309 Boyer St., Phila. 19, Pa.
Graham Mfg. Corp., 31465 Stephenson Hway., Royal Oak 4, Mich.
Graham Rotary File & Tool Corp., 4816 Tacony St., Philadelphia 37, Pa.
Grand Specialties Co., 3101 West Grand Ave., Chicago 22, Ill.
Granite City Steel Co., 20th and Madison Ave., Granite City, Ill.
Gray Co., Inc., 60 11th Ave., N. E., Minneapolis 13, Minn.
Gray Mills Corp., 2006 Ridge Ave., Evanston Ill.
Great Lakes Steel Corp., Alloy Div., Ecorse, Detroit 18, Mich.
Great Lakes Steel Corp., Tecumseh Rd., Ecorse, Detroit 18, Mich.
Green Bay Welding Supply, Inc., 143 Miramar Dr., Green Bay, Wis.
Greene Tweed & Co., 318 Elm Ave., North Wales, Pa.
Greenfield Tap & Die Corp., Sanderson St., Greenfield, Mass.
Greenlee Tool Co., Div. of Greenlee Bros. & Co., 2136 Twelfth St., Rockford, Ill.
Greyhound A. C. Arc Welder Corp., 604 Johnson Ave., Brooklyn 6, N. Y.
Grieve-Hendry Co., Inc., 1815 West Lake Street, Chicago 12, Ill.
Griffin, G. W., Co., 93 Memorial St., Franklin, N. H.
Grinnell Co., Inc., 260 W. Exchange St., Providence 1, R. I.
Grip Nut Company, 310 S. Michigan Ave., Chicago 4, Ill.
Griscom-Russell Co., 285 Madison Ave., New York, N. Y.
Grobet File Co. of America, Inc., 421 Canal St., New York 13, N. Y.
Gulf Oxygen Co., Inc., 312 N. Kirkman St., Lake Charles, La.
Gulf Steel & Wire Co., Grant Bldg., Pittsburgh, Pa.
Gumm, Frederick, Chemical Co., Inc. 538 Forest St., Kearney, N. J.
Guyan Machinery Co., Box 150, Logan, W. Va.

H

H & M Pipe Beveling Machine Co., 311 East Third St., Tulsa, Okla.
Haas Miller Corp., Fourth & Bristol Streets, Philadelphia 40, Pa.
Hallwell Tool Co., 606 S. Hill St., Los Angeles 14 Calif.
Hamilton, Alexander Inst., 71 W. 23rd St., New York 10, N. Y.
Hamilton Tool Co., 9th & Hanover Sts., Hamilton, Ohio.
Hammon Precision Equipment Co., Emeryville, Calif.
Hammett Elec. Mfg. Co., 706 E. 18th St., Kansas City 8, Mo.
Hammer Blow Tool Co., 602½ Third St., P.O. Box 419 Wausau, Wis
Hammond Associates Inc., The, Suite 3022, Empire State Bldg., N. Y. 1, N. Y.
Hammond Machinery Builders Inc., 1600 Douglas Ave., Kalamazoo, Mich.
Hancock Valve Div., Manning Maxwell & Moore Inc., Bridgeport, Conn.
Handy & Harman, 82 Fulton St., New York 38, N. Y.
Hankison Corp., 951 Banksville Rd., 541 Biltmore Bldg., Pittsburgh 16, Pa.
Hanna Engineering Works, 1765 North Elston Ave., Chicago 22, Ill.
Hannifin Corp., Des Plaines, Ill.
Hanover Glove Co., 2-6 Exchange Pl., Hanover, Pa.
Hansen, S. A., Co., 58 Frelinghuysen Ave., Newark 5, N. J.
Hanson-Van Winkle-Munning Co., Matawan, N. J.
Harbison Walker Refractories Co., 1800 Farmers Bank Bldg. Pittsburgh, Pa.
Harmo Tire & Rubber Corp., 518 Hammond Bldg., Detroit 26, Mich.
Harmon & Co., 919 N. Michigan Ave., Chicago, Ill.
Harnischfeger Corp., 4400 W. National Avenue, Milwaukee 46, Wis.
Harrington Co., The, 17th & Callowhill Sts., Philadelphia 30, Pa.
Harris Calorific Co., 5501 Cass Ave., Cleveland 2, Ohio.
Harrisburg Steel Corp. 10th & Herr Sts., Harrisburg 15, Pa.
Harris Service & Repair Corp., 178 Coit St., Irvington 11, N. J.
Harris Welding Equip. Co., 518 North Bishop St., Chicago 22, Ill.
Harvey Aluminum Co., Torrance, Calif.
Har-Worth Mfg. Co., 744 Broad St., Newark 2, N. J.
Haskins, R. G. Co., 2651 West Harrison St., Chicago 12, Ill.
Hauck Mfg. Co. 124-136 10th St., Brooklyn 15, N. Y.
Hayes, C. I., Inc., 75 Baker St., Providence 5, R. I.
Hayes Truck Appliance Co., Richmond, Ind.
Haynes Stellite Co., A Div. of Union Carbide & Carbon Corp., So. Lindsay St., Kokomo, Ind.
Hays Mfg. Co., 12th & Liberty Streets, Erie 6, Pa.
Hazard Insulated Wire Works Div. of the Okonite Co., 72 Hazle St., Wilkes Barre Pa.
Hazard Wire Rope Div. of American Chain & Cable Co., Inc., 271 S. Pennsylvania Ave., Wilkes-Barre, Pa.
Heath Engineering Co., 209 Jefferson St., Ft. Collins, Colo.
Hebard, W. F. & Co., 623 S. Winchester, Chicago, Ill.
Heller Brothers Co., 865 Mt. Prospect Ave., Newark 4, N. J.
Helmco, Inc., 7400 W. Lawrence Ave. Chicago 31, Ill.
Henley, Norman W., Publishing Co., 2 W. 45th St., New York 19, N. Y.
Henry Disston Div.—See Carlson Rules & Measures.
Herbrand Tools, Stone & Lake Sts., Fremont, Ohio.
Hercules Chemical Co., Inc., 332 Canal St., New York 13, N. Y.
Herrick, C. B. Mfg. Corp., 2000 Center St., Cleveland Ohio.
Heston & Anderson, 608 W. Kirkwood St., Fairfield, Iowa.
Hewitt-Robbins, Inc., 666 Glenbrook Road, Stamford, Conn.
Hevi Duty Elec. Co., 4212 W. Highland Blvd., Milwaukee 1, Wis.
Hewlett Packard Co., 367 Addison Ave., Palo Alto, Calif.
Hexacon Electric Co., 161 W. Clay Ave., Roselle Park, N. J.
High Voltage Engineering Corp. 7 University Rd., Cambridge 8, Mass.
Hi-Grade Alloy Corp., 1236 S. Talman Ave., Chicago 8, Ill.
Hi-Lo Mfg. Co., Inc., 18525 Weaver Ave., Detroit 23, Mich.
Hirst Electronic Develop., Ltd., Dermody Rd., Lewisham, London S.E., England.
Hisey-Wolf Machine Co., Madison & Edwards Rd., Cincinnati 8, Ohio.
Hobart Brothers Co. Hobart Sq., Troy 1, Ohio.
Hoeganaes Sponge Iron Corp., Riverton, N. J.
Hoffman, Robert W., Co., Inc., 32-36 S. Clinton St., Chicago 6, Ill.
Hoke Inc., 148 S. Dean St., Englewood, N. J.
Holcomb Safety Garment Co., 128 N. Jefferson St., Chicago 2, Ill.
Holcroft & Co., 6545 Epworth Blvd., Detroit 10 Mich.
Holden, A. F., Co., 11300 Schaefer Highway, Detroit 27, Mich.
Holger Andreasen, Inc., 703 Market St., San Francisco 3, Calif.
Holiday Plastics, Inc., 1301 Fairfax Trafficway, Kansas City, Kans.
Hollands Mfg. Co., 350 E. 18th St. Erie, Pa.
Hollingshead, R. M., Corp., 840 Cooper St., Camden, N. J.
Holmes, Robert, & Bros., Inc., 510 Junction Ave., Danville, Ill.
Holth Mfg. Co., Port Huron, Mich.
Holub Industries, Inc., Sycamore Ill.

Homalite Corp., The, 11-13 Brookside Dr., Wilmington, Del.
Home Rubber Co., 30 Wolverton Ave., Trenton 5, N. J.
Hones, Charles A., Inc., 121 S. Grand Ave., Baldwin, L. I., N. Y.
Hoof Products Co., 6543 S. Laramie Ave., Chicago 38, Ill.
Hope Natural Gas Co., 445 W. Main St., Clarksburg, W. Va.
Hose Accessories Co., 17th & Lehigh Ave., Philadelphia 32, Pa.
Hoskins Mfg. Co., 4445 Lawton Ave., Detroit 8, Mich.
Hossfeld Mfg. Co., 446 W. 3rd St., Winona, Minn.
Houghton, E. F., & Co. 303 W. Lehigh Ave., Phila. 33, Pa.
Houston Oxygen Co., Inc., 3602 W. 11 St., Houston 8, Texas.
Howard Industries, Inc., Racine, Wis.
Hughes, M. W., Co., Watertown, Mass.
Hunt, C. B. & Son, Inc. 1900 E. Pershing St., Salem, Ohio.
Hunt, Robert W., Co., 59 Murray St., N. Y. 7, N. Y.
Hurbenium Co., Napoleon, Ohio.
Hydraulic Press Mfg. Co., The, Marion Rd., Mt. Gilead, Ohio.

I

Idaho Sprocket Machine Works, Inc., The, Boise, Idaho.
Ideal Electric & Mfg. Co., Mansfield, Ohio.
Ideal Industries, Inc., 1935 Park Ave., Sycamore, Ill.
Ilg. Electric Ventilating Co., 2850 N. Pulaski, Chicago 41, Ill.
Illinois Iron & Belt Co., 10 Main St., Carpentersville, Ill.
Illium Corp., The, P. O. Box 478, Freeport, Ill.
Imperial Brass Mfg. Co., The, 1200 W. Harrison St., Chicago 7, Ill.
Imperial Glove Co., 285 S. W. Franklin St., Berlin, Wis.
Independent Engrg. Co., Inc., O'Fallon, Ill.
Indiana Oxygen Co., 435 S. Delaware St., Indianapolis 25, Ind.
Indianapolis Brush & Broom Mfg. Co., Corner Brush & Broom St., Indianapolis 7, Ind.
Induction Heating Corp., 181 Wythe Ave., Brooklyn 11, N. Y.
Industrial Air Products Co., 3200 N.W. Yeon Ave., Portland 10, Ore.
Industrial Bench & Equip. Mfg. Co., Inc., 98 South St., New Britain, Conn.
Industrial Corp., Baltimore Life Bldg., Baltimore 1 Md.
Industrial Develop. & Mfg. Corp., Needham, Mass.
Industrial Engr., 4268 Shenandoah Ave., St. Louis 10, Mo.
Industrial Equip Co., 315 N. Ada St., Chicago 7, Ill.
Industrial Gloves Co., 700 Garfield St., Danville, Ill.
Industrial Metal Protectives, Inc., 401 Homestead Ave., Dayton 8 Ohio.
Industrial Overlay Metals, Inc., 410 N. Barron St., Eaton, Ohio.
Industrial Press, The, 148 Lafayette St., N. Y. 13, N. Y.
Industrial Products Co., 2802 N. Fourth St., Philadelphia 33, Pa.
Industrial Timer Corp., 115 Edison Pl., Newark 5, N. J.
Industrial Welding Services, 7737 Old 3rd St., Louisville 14, Ky.
Industriline, Inc., 441 Lexington Ave., New York, N. Y. (Factory in Cincinnati, Ohio).
Ind-X Corp., 115 Belmont Ave., N., Seattle 2, Wash.
Ingersoll-Rand Co., 11 Broadway, N. Y. 4, N. Y.
Ingersoll Steel Div., Borg-Warner Corp., 310 S. Michigan Ave. Chicago 4, Ill.
Inland Oxy-Acetylene Co., Inc., 218 E. Trent Ave., Portland 10, Oregon.
Inland Steel Co., 38 S. Dearborn St., Chicago 3, Ill.
Innis, Speiden & Co., 117 Liberty St., New York, N. Y.
Insto-Gas Corp., 1977 E. Woodbridge St., Detroit 7, Mich.
Insulrock Corp., East Linden Ave., Linden N. J.
International Acetylene Ass'n., 30 E. 42nd St., New York 17, N. Y.
International Chain & Mfg. Co., York, Pa.
International Fermont Machinery Co., Inc., Ramapo, N. Y.
International Nickel Co., Inc., The, 67 Wall St., N. Y. 5, N. Y.
International Rectifier Corp., 1521 E. Grand Ave. El Segundo, Calif.
International Salt Co., Inc., Scranton Life Bldg., Scranton 3, Pa.
International Shoe Co., Hy-Test Div., 1509 Washington St., St. Louis 3, Mo.
International Textbook Co., 1001 Wyoming Ave., Scranton 9, Pa.
Interstate Machinery Co., 1431 W. Pershing Rd., Chicago 9, Ill.
Interstate Sales Co. 123 E. 18th St., New York 3, N. Y.
Invincible Vacuum Cleaner Mfg. Co., 3000 Davis St. S. Dover, Ohio.
Ions Exchange Corp., 44 Leonard St., New York 13, N. Y.
Iron Lung Ventilator Co., 4019 Prospect Ave., Cleveland 3, Ohio.

J

Jackson Products, Inc., 31739 Mound Rd., Warren, Mich.
J & H Products Co., 3007 Elm St., Dallas, Tex.
J & S Tool Co., Inc. 1104 Route 10, Livingston, N. J.
Janos Asbestos Co., 39 Cortlandt St., New York 7, N. Y.
Jarvis, Charles L., Co., Pease Ave. & Stack St., Middletown, Conn.
Jefferson Engineering & Mfg. Co., 269 Walker St., Detroit 7, Mich.
Jefferson Mfg. Co., The, 800 N. 4th St., Columbus 16, Ohio.
Jenkins Bros. 80 White St., New York, N. Y.
Jergens Tool Specialty Co., 712 E. 163rd St., Cleveland 10, Ohio.
Jessop Steel Co., 500 Green St., Washington, Pa.
Jewel Mfg. Co., 1841 University Ave., St. Paul 4, Minn.
Jiffy Disintegrators, Inc., 109 E. Nine Mile Rd., Detroit, Mich.
Johns-Manville Corp., 22 E. 40th St., New York 16, N. Y.
Johnson Bronze Co., 535 S. Mill St., New Castle, Pa.
Johnson Gas Appliance Co., 520 E. Ave., N. W., Cedar Rapids, Iowa.
Johnson Machine Works, Eau Claire, Wis.
Johnson Mfg. Co., Inc., Mt. Vernon, Iowa.
Johnson Mfg. Corp., 1013 Barnes St., Albion, Mich.
Johnson Mfg. Corp., 405 Lexington Ave., New York 17, N. Y.
Johnson-March Corp., The, 1724 Chestnut St., Philadelphia, Pa.
Johnson Steel & Wire Co., Inc., 55 Wiser Ave., Worcester 7, Mass.
Johnson-Williams, Inc., Palo Alto, Calif.
Johnson Welding Equipment Co., 3421 W. Belmont Ave., Chicago, Ill.
Johnston, A. P., 1845 E. 57th St., Los Angeles 11, Calif.
Jones Engineering Co. 523 Spring St., Ellwood City, Pa.
Jones, C. Walker, Co., 6125 N. Lambert St., Phila. 38, Pa.
Jones, Howard B., Div., Cinch Mfg. Corp., 1026 S. Homan Ave., Chicago 24, Ill.
Jones, Jimmie, Co., The, 1016 E. 4th St., Tulsa Okla.
Jones & Laughlin Steel Corp., Third Ave. & Ross St., Pittsburgh 30, Pa.
Jordan Electronic Sales, Inc., 119 E. Union St., Pasadena, Calif.
Joy Mfg. Co., Henry W., Oliver Bldg., Pittsburgh 22, Pa.
Joyce Cridland Co. The, 2027 First St., Dayton, Ohio.
Junkin Safety Appliance Co., Inc., 101 S. Floyd St., Louisville 2, Ky.
Justrite Mfg. Co., 2061 N. Southport Ave., Chicago 14, Ill.

K

KSM Products, Inc., Yale & Woodland Aves., Merchantville 8, N. J .
Kacena Co., Cedar Rapids, Ia.
Kaiser Aluminum & Chemical Corp., 1924 Broadway, Oakland 12, Calif.
Kalamazoo Tank & Silo Co. Machine Tool Div., 508 Harrison St., Kalamazoo 16, Mich.
Kano Laboratories, 1000 S. Thompson Lane, Nashville, Tenn.
Kansas Oxygen, Inc., P.O. Box 551, 126½ N. Main St., Hutchinson, Kan.
Karma Mfg. Co., 14823 Loomis St., Harvey, Ill.
Kasson Die & Motor Corp., 32-14 Northern Blvd., Long Island City 1, N. Y.
Keasbey & Mattison Co., Ambler, Pa.
Keaton Mfg. Co., 3912 W. Vliet St., Milwaukee 8, Wis.
Kedman Co., 233 S. 5th W. St., Salt Lake City 1, Utah.
Keenan Welding Supplies Co., P. O. Box 44, Albany, Ga.
Kelite Products, Inc., P. O. Box 2917, Term. Annex, Los Angeles 54, Calif.
Keller Tool Co., 1333 Fulton St., Grand Haven, Mich.
Kelley Koett Mfg. Co., The, 212 W. 4th St., Covington, Ky.
Kellogg Div. of The Amer. Brake Shoe Co., 97 Humboldt St., Rochester 9, N. Y.
Kellogg, M. W., Co., 711 Third Ave., New York, N. Y.
Kemode Co., The, 161 W. 18th St., New York 11, N. Y.
Ken-Rad Tube & Lamp Corp., Owensboro, Ky.
Kent Co., Inc., The, 357 Canal St., Rome, N. Y.
Kerk-Aloy Co., Bloomington, Ind.
Kerkling, C. A. Metals Co., 1765 N. San Fernando Rd., Burbank, Calif.
Keratest Mfg. Co., 2525 Liberty Ave., Pittsburgh 22, Pa.
Kester Solder Co. 4201 Wrightwood Ave., Chicago 93, Ill.
Kett Tool Co., 5 E. 3rd St., Cincinnati 2, Ohio
Keuffel & Esser Co., Adams & 3rd Sts., Hoboken, N. J.
Key Co., Box 494, East St. Louis, Ill.
Keystone Carbon Co., 1935 State St., St. Marys, Pa.
K-G Equipment Co., Inc., 1744 Lehigh St., Allentown, Pa.
Kidde, Walter & Co., Inc., 997 Main St., Belleville 9, N. J.
Kidder Mfg. Co., Inc., J. F., 426 Colchester Ave., Burlington, Vt.
Kimball Safety Prod. Co., 9310 Wade Park Ave., Cleveland 6, Ohio
King, Andrew, 67 E. Lancaster Ave., Ardmore, Pa.
Kirk, Morris P., & Son, Inc., 2717 S. Indiana St. Los Angeles 23, Calif.
Kirkhof Mfg. Corp., 2450 Buchanan Ave., S. W., Grand Rapids, Mich.
Kirschner Gloves, Inc., 239 Superior Ave., Oconto Wis.
Klein, Mathias, & Sons, 3200 Belmont Ave. Chicago 18, Ill.
Klem Chemicals, Inc., 14401 Lanson, Dearborn, Mich.
Klenk, Karl, 107 E. 5th St., Wilmington 1, Del.
Klemp Metal Grating Corp., 6603 S. Melvina Ave., Chicago 38, Ill.
Kling Bros. Engrg. Works 1308 N. Kostner Ave., Chicago 51, Ill.
Knox Mfg. Co., 819 Cherry St., Philadelphia 7, Pa.
Koppers Co., Inc., Tar Products Div., Wailes Dove Hermiston, Inc., 449 S. Ave., Westfield, N. J.
Korn Leather Co., Peabody, Mass.
Kraeuter & Co., Inc., 585 18th Ave., Newark 3, N. J.
Krembs & Co., 669 W. Ohio St., Chicago 10, Ill.
Krieg, Charles W., Co., 48-60 Dickerson St., Newark 4, N. J.
Kriewaldt Specialty Mfg. Co., Oconto, Wis.
Krohn Mfg. & Supply Co., Centreville, Mich.
Kropp Forge Co., 5301 W. Roosevelt Rd., Chicago 50, Ill.
Kunkle Valve Co., 121 S. Clinton St., Ft. Wayne 2, Ind.
Kwikheat Mfg. Co., 3732 San Fernando Rd., Glendale 4, Calif.

L

Laacke, R., Co., 1635 N. 3rd St., Milwaukee, Wis.
Laclede-Christy Co., 1711 Ambassador Bldg., St. Louis 1, Mo.
Ladish Co., 5481 S. Packard Ave., Cudahy, Wis.
Lake Chemical Co., 3052 W. Carroll Ave., Chicago 12, Ill.
Lamson & Sessions Co., 3101 27th Ave., N., Birmingham, Ala.
Langevin Mfg. Corp., 47-37 Austell Pl., Long Island City 1, N. Y.
Lapeer Mfg. Co., 3056 Davison Rd., Lapeer, Mich.
LaPine & Co., Arthur S., 6001 S. Knox Ave., Chicago 29, Ill.
Lapsco Enterprises, 3915 N. Georgia, Box 263, Oklahoma City 6, Okla.
Last Word Sales Co., 18500 Mt. Elliott, Detroit 34, Mich.
Laughlin, Thomas Co., The, 143 Fore St., Portland 6, Me.
Layne-Held Corp., 114 W. 19th St., Higginsville, Mo.
Le Jay Mfg. Co., 2900 Emerson Ave., S., Minneapolis 8, Minn.
Lee, K. O., Co., Congress at First, Aberdeen, S. D.
Lee Rubber & Tire Corp., Albert St., Youngstown 1, Ohio
Leetonia Tool Co., The, 142 Main St., Leetonia Ohio
Lehigh Foundries, Inc., Air Control Div., 1500 Lehigh Dr., Easton, Pa.
Lehigh Safety Shoe Co., Race & Court St., Allentown, Pa.
Lenape Hydraulic Pressing & Forging Co., Box 536, West Chester, Pa.
Lepel High Frequency Lab. Inc., 55th St. & 37th Ave., Woodside 77, New York N. Y.
Leslie Co., 394 Delafield Ave., Lyndhurst, N. J.
LeTourneau, Westinghouse Co., 2301 N. Adams St., Peoria, Ill.
Lewis Machine Co., The, 3441 E. 76th St., Cleveland 27, Ohio
Lewis Welding & Engrg. Corp., 77 Interstate St., Bedford, Ohio
Lexsuco, Inc., 4815 Lexington, Clevedland, Ohio
Lichtman & Sons, 241 Frelinghuysen Ave., Newark 5, N. Y.
Lignum Vitae Products Corp., 96 Boyd St., Jersey City, N. J.
Lincoln Elec. Co., The, 22801 St. Clair Ave., Cleveland 17, Ohio
Lincoln Engineering Co., 5701 Natural Bridge Ave., St. Louis 20, Mo.
Lindberg Engineering Co., 2450 W. Hubbard St., Chicago 12, Ill.
Linde Air Products Co., A Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.
Link, O. P., Handle Co., 1st, 2nd & 3rd Sts., Salem, Ind.
Link Welder Corp., 13684 W. Buena Vista, Detroit 27, Mich.
Lintern Corp., The, 58 Lincoln Ave., Berea, Ohio.
Liquid Carbonic Corp., The, Industrial Gas Div., 3100 S. Kedzie Ave., Chicago 23, Ill.
Livesay Industries, Inc., 141 San Lorenzo, Coral Gables, Fla.
Livingston Electronics Co., Essex Falls, N. J.
Lockrey Co., Lubricants Div., Southampton, N. Y.
Lonergan, J. E., Co., 2nd & Race Sts., Philadelphia 6, Pa.
Louisville Cap Co., 30th & Jefferson Sts., Louisville 12, Ky.
Lucas-Milhaupt Engineering Co., 5051 S. Lake Dr., Cudahy, Wis.
Lufkin Rule Co., 1730 Hess St., Saginaw, Mich.
Lukens Steel Co., First Ave., Coatesville, Pa.

Lunkenheimer Co., P. O. Box 360, Annex Sta., Cincinnati 14, Ohio
Lutz File & Tool Co., 1905 Lexington Ave., Cincinnati 12, Ohio
Lyon Metal Products, Inc., 200 Madison Ave., Aurora, Ill.

Mc

McAn, Thom, Safety Shoe Div. of Melville Shoe Corp., 25 W. 43rd St., New York 18, N. Y.
McBurney, A. D., 317 E. 4th St., Los Angeles 13, Calif.
McCabe Mfg. Co., 9 Water St., Lawrence, Mass.
McClary & Byers Equip. Co., 731 55th St., Oakland 9, Calif.
McDonald, B. F., Co., 5721 W. 96th St., Los Angeles 45, Calif.
McFerron-Myers Products Co., P. O. Box 2657, Cleveland, Ohio
McGill Mfg. Co., Inc., 259 Indiana Ave., Valparaiso, Ind.
McGonegal Mfg. Co., Railroad Ave. & Mozart St., East Rutherford, N. J.
McGraw-Hill Book Co., 330 W. 42nd St., New York 36, N. Y.
McHale Mfg. Co., 3200 E. Mines Ave., Los Angeles 23, Calif.
McKay Co., The, 1005 Liberty Ave., Pittsburgh 22, Pa.
MacDermid, Inc., Waterbury 88, Conn.
MacDonald Co., Inc., The, 927 Valley Road, P. O. Box 1707, Reno, Nev.
MacLeod Co., The, 2232-2240 Bogen St., Cincinnati 22, Ohio
MacMillan Co., 60 Fifth Ave., New York 11, N. Y.

M

M-B Products, 46 Victor Ave., Detroit 3, Mich.
M. W. Kellogg Co., 711 Third Ave., New York, N. Y.
Machinery & Welder Corp., 1324 W. Fulton St., Chicago, Ill.
Machlett Laboratories, Inc., 1063 Hope St., Springdale, Conn.
Macklin Co., 2914 Wildwood Ave., Jackson, Mich.
Magnaflux Corp., 7300 W. Lawrence Ave., Chicago 31, Ill.
Magna Industrial Lens Co., The, Box 727, Holdenville, Okla.
Magne-Cast Tool Co., Inc., 4900 W. Madison St., Chicago 44, Ill.
MagneTrode Corp., 1708 Main St., Kansas City 8, Mo.
Magnolia Metal Co., 18 W. Jersey St., Elizabeth 4, N. J.
Mahr Mfg. Co., Div. Diamond Iron Works, 1728 N. 2nd St., Minneapolis 11, Minn.
Maintenance Engrg. Corp., P.O. Box 10426, Pittsburgh 34, Pa.
Maitlen & Benson, Inc., 1395 Obispo Ave., Long Beach 4, Calif.
Makepeace Co., D. E., Div. of Union Plate & Wire Co., Pine & Dunham Sts., Attleboro, Mass.
Mall Tool Co., 7740 S. Chicago Ave., Chicago 19, Ill.
Mallory, P. R., & Co., Inc., 3029 E. Washington St., Indianapolis 6, Ind.
Mallory-Sharon Titanium Corp., Niles, Ohio
Manco Mfg. Co., Washington Ave. & Grove Sts., Bradley, Ill.
M & T Welding Prods. Corp., 703 7th Ave., Oakland, Calif.
Manganese Steel Forge Co., Richmond St. & Castor Ave., Philadelphia 34, Pa.
Manning, Maxwell & Moore, Inc., Shaw-Box Crane & Hoist Div., Broadway & Park Ave., Muskegon, Mich.
Mansol Ceramics, 140 Little St., Belleville, N. J.
Manual Arts Press, 237 N. Monroe St., Peoria 3, Ill.
Manufacturer's Brush Co., The, 12501 Elmwood Ave., Cleveland 11, Ohio
Manufacturers Processing Co., 1360 Hilton Rd., Detroit 20, Mich.
Marcus Transformer Co., Inc., Rahway, N. J.
Marion Electrical Instrument Co., 400 Canal St., Manchester, N. H.
Marison Co., The, Mill & River Sts., P. O. Box 178, South Elgin, Ill.
Markal Co., 3052 W. Carroll Ave., Chicago 12, Ill.
Market Forge Co., 27 Garvey St., Everett 49, Mass.
Marks Oxygen Co., 1815 Fifteenth St., Augusta, Ga.,
Marquette Mfg. Co., Inc., 307 E. Hennepin Ave., Minneapolis 14, Minn.
Marsh Heating Equipment Co., Div. of Jas. P. Marsh Corp., 2073 Southport Ave., Chicago 14, Ill.
Marsh, Jas. P., Corp., 3501 Howard St., Skokie, Ill.
Martin Electric Co., 3040 E. Outer Dr., Detroit 34, Mich.
Mason Neilan Div., Worthington Corp., 1190 Adams St., Boston 24, Mass.
Massilon Refractories Co., The, P. O. Box 557, Massilon, Ohio
Master Company, 4444 Brooklyn Ave., Los Angeles, Calif.
Master Electric Co., 126 Davis Ave., Dayton 1, Ohio
Master Pneumatic Tool Co., Inc., 148 Peniman Rd., Orwell, Ohio
Master Rule Mfg. Co., Inc., 40 Mulberry St., Middletown, N. Y.
Master Vibrator Co., 200 Davis Ave., Dayton 1, Ohio
Matchless Utilities Co., 303 Cherry St., New York 2, N. Y.
Mauk, A. K., 7501 Hamilton Ave., Pittsburgh 8, Pa.
Maurath, Inc., 21800 Miles Ave., Cleveland 22, Ohio
Mayhew Steel Products, Inc., 30 Bridge St., Shelburne Falls, Mass.
Mechanics Engrg. Co., Inc., 229 W. Pearl St., Box 243, Jackson, Mich.
Meco Welding Supply Co., 4835 S. Western Blvd., Chicago 9, Ill.
Medart Co., 100 Potomac St., St. Louis 18, Mo.
Merit Products, Inc., 4023 Irving Pl., Culver City, Calif.
Merrill Bros., Inc., 56-02 Arnold Ave., Maspeth 78, N. Y.
Merix Chemical Co., 1021 E. 55th St., Chicago 15, Ill.
Metal Bond Mfg. Co., P. O. Box 215, Montgomery City, Mo.
Metal Removal Co., 1801 Columbia Ave., Chicago 26, Ill.
Metal & Thermit Corp., 100 Park Ave., New York 17, N. Y.
Metallizing Co. of America, 3520 W. Carroll Ave., Chicago 24, Ill.
Metallizing Engineering Co., Inc., 1101 Prospect Ave., Westbury, Long Island, N. Y.
Metalloy Products Co., 1351 E. 17 St., Los Angeles 54, Calif.
Metalspray Co., Inc., 114 W. Elmyra St., Los Angeles 12, Calif.
Met-L-Chek Co., The, 11919 S. Western Ave., Los Angeles, Calif.
Metro Mfg. Co., 38-11 31st St., Long Island City 1, N. Y.
Metron Instrument Co., 432 Lincoln St., Denver 9, Colo.
Mexico Refractories Co., Cole & Love Sts., Mexico, Mo.
Michigan Abrasive Co., 11900 E. 8 Mile Rd., Detroit, Michigan.
Michigan Clamp Co., Box 243, Jackson, Mich.
Michigan Steel Casting Co., 1999 Guoin St., Detroit 7, Mich.
Michigan Steel Tube Products Co., 9450 Buffalo St., Detroit 12, Mich.
Micro Products Co., 20 N. Wacker Dr., Chicago 6, Ill.
Midland Paint & Varnish Co., The, 3801 E. 91st St., Cleveland 5, Ohio.
Mid-States Welder Mfg. Co., 6025 S. Ashland Ave., Chicago 36, Ill.
Mid West Abrasive Co., 500 S. Washington St., Owosso, Mich.
Midwest Piping & Supply Co., Inc., 1450 S. 2nd St., St. Louis 4, Mo.
Midwest Tool & Mfg. Co., 2411 14th Street, Detroit 16, Mich.
Milburn, Alexander, Inc., 1231-45 Ridgely St., Baltimore 30, Md.
Milburn Co., 3246 E. Woodbridge, Detroit 7, Mich.
Miles, John R. R., Inc., 214 4th Ave., S. E., Minneapolis 15, Minn.
Miller Co., The, Meriden, Conn.
Miller Electric Mfg. Co., 718 S. Bounds St., Appleton, Wis.
Miller Fluid Power Co., 2040 N. Hawthorne Ave., Melrose Park, Ill.
Miller-Peerless Mfg. Co., 452 N. Sangamon St., Chicago 22, Ill.
Miller Products Co., Inc., 29 Warren St., New York 7, N. Y.
Millers Falls Co., 57 Wells St., Greenfield, Mass.
Milwaukee Brush Mfg. Co., The, 2236 N. 30th St., Milwaukee 45, Wis.
Milwaukee Elec. Tool Corp., 5316 W. State St., Milwaukee 8, Wis.
Milwaukee Truck & Caster Corp., 6512 W. River Parkway, Milwaukee 13, Wis.
Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa.
Minneapolis Honeywell Reg. Co., Industrial Div., Wayne & Windrim Aves., Philadelphia 44, Pa.
Minnesota Mining & Mfg. Co., 900 Fauquier Ave., St. Paul 6, Minn.
Miracle Rod Co. of Illinois, 612 N. Michigan Ave., Chicago 11, Ill.
Mir-O-Col Alloy Co., Inc., 312 N. Ave. 21, Los Angeles 31, Calif.
Misener Manufacturing Co., Inc., 202-8 S. Walton St., Syracuse, N. Y.
Mississippi Valley Struct. Steel Co., 3117 Big Bend Rd., St. Louis, Mo.
Mitchell Radiation Prods. Corp., 128 E. Washington St., Norristown, Pa.
Mitchell Supply Co., 312 Plymouth Ave., No., Minneapolis 11, Minn.
Modern Engineering Co., Inc., 3411 Pine Blvd. St. Louis 3, Mo.
Monaghan, J. J. Co., Inc., 500 Alcott, Denver 4, Colo.
Montpelier Glove Co., Montpelier, Ind.
Moore Corp., John B., P. O. Box 3, Nutley 10, N. J.
Moorwood Mfg. Co., 1718 E. Florence St., Los Angeles 1, Calif.
Morey Flux & Chem. Co., 1813 Williamson St., Wilmington 99, Del.
Morgan Aluminum Welding Rod Co., The 17706 Miles Ave., Cleveland 28, Ohio
Morgan Vise Co., 108 N. Jefferson St., Chicago 6, Ill.
Morris, Wheeler & Co., Inc., Fox Street & Roberts Ave., Philadelphia 29, Pa.
Morrison Prod., Inc., 16816 Waterloo Road, Cleveland 10, Ohio
Morse Twist Drill & Machine Co., 163 Pleasant St., New Bedford, Mass.
Morton Manufacturing Co., Broadway & Hoyt, Muskegon Heights, Mich.
Morton Salt Co., 120 S. La Salle St., Chicago 3, Ill.
Moslo Machinery Co., 2443 Prospect Ave., Cleveland 15, Ohio
Motor Wheel Co., Lansing, Mich.
Mott Products Co., 524 N. Jackson St., Jackson, Mich.
Mowatt, Geo. R., Co., 24 W. 40th St., N. Y. 18, N. Y.
Mueller Brass Co., 1925 Lapeer Ave., Port Huron, Mich.
Mueller Co., 512 W. Cerro Gordo St., Decatur, Ill.
Mueller Electric Co., 1583 E. 31st St., Cleveland 14, Ohio
Mulconroy Co., 54th & Jefferson St., Philadelphia 31, Pa.
Mullenbach Div., Electric Machinery Mfg. Co., 2300 E. 27th St., Los Angeles 58, Calif.
Multi-Amp Corp., 10 Third St., Newark, N. J.
Multi-Hydromatic Welding & Mfg. Co., 23171 Groesbeck Hwy., E., Detroit, Mich.
Multi Products Tool Co., 123 Sussex Ave., Newark 4, N. J.
Munton Mfg. Co., 9400 Belmont Ave., Franklin Park, Ill.
Murine Co., Inc., The, 660 N. Wabash Ave., Chicago 11, Ill.

N

Nadeldinger, John & Son, Inc., 336 E. 153 St., Bronx 55, N. Y.
National Cable Corp., 619 S. 70th St., Milwaukee 14, Wis.
National Carbide Co., Div., Air Reduction Co., Inc., 60 E. 42nd St., New York 17, N. Y.
National Carbon Co., Div. of Union Carbide & Carbon Corp., 30 E. 42nd St., New York 17, N. Y.
National Cylinder Gas Co., 840 N. Michigan Ave., Chicago 11, Ill.
National Detailing Co., 4652 Echo Glen, Pittsburgh 36, Pa.
National Elec. Products Co., 1310 Chamber of Commerce Bldg., P. O. Box 897, Pittsburgh 30, Pa.
National Elec. Weld. Mach. Co., 1846-1916 N. Trumbull St., Bay City, Mich.
National Electronics, Inc., 628 North Street, Geneva, Ill.
National Lead Co., 111 Broadway, Room 1815, New York 6, N. Y.
National Machine Tool Co., 1536 Clark St., Racine, Wis.
National Powder Extinguisher Corp., 50 Rockefeller Plaza, New York 20, N. Y.
National Screw & Mfg. Co., Chester Hoist Div., The, Lisbon, Ohio
National Steel Corp., Ecorse, Detroit 18, Mich.
National Supply Co., 3320 Bishop St., Toledo 1, Ohio.
National Technical Products, Inc., 83-91 W. Forest Ave., Englewood, N. J.
National Time & Signal Corp., 21800 Wyoming Ave., Detroit 37, Mich.
National Torch Tip Co., Freeport Road, Pittsburgh 15, Pa.
National Tube Co., U. S. Steel Corp. Subsidiary, Frick Bldg., Pittsburgh 19, Pa.
National Twist Drill & Tool Co., Rochester, Mich.
National Welders Supply Co., Inc., 1230 S. Tryon St., Charlotte 1, N. C.
National Welding Equipment Co., 218 Fremont St., San Francisco 5, Calif.
National Welding Supply Ass'n., 1900 Arch St., Philadelphia 3, Pa.
Naylor Pipe Co., 1230 E. 92nd St., Chicago 19, Ill.
Neal Co., 2806 Leavenworth St., Omaha, Nebr.
Nedco Co., 27 Jones Rd., Waltham 54, Mass.
Neilson Wheel Co., 1614 N. 12th St., Milwaukee 5, Wis.
Nelson, Herman, Div., Amer. Air Filter Co., Inc., 1824 Third Ave., Moline, Ill.
Nelson Stud Welding, Div. of Gregory Industries, Inc., E. 28th & Toledo Ave., Lorain, Ohio
Nelsonville Fdry. & Machine Co., 1021-81 Chestnut, Nelsonville, Ohio.
New Albany Welding Works, Inc., Jeffersonville, Ind.
New Britain Machine Co., South St., New Britain, Conn.
New England Gas Prdts., Inc., 40 Central St., Room 700, Boston 9, Mass.
New Era Engineering, 458 W. 29th St., Chicago 16, Ill.
New Mexico Steel Co., 510 W. Marquette, Albuquerque, N. M.
New Rochelle Tool Corp., 322 Main St., New Rochelle, N. Y.
N. Y. Belting & Packing Co., 1 Market St., Passaic, N. J.
Newage International Inc., 235 E. 42nd St., New York, N. Y.
Newhall Chain Forge & Iron Co., Westwood, N. J.
Niagara Machine & Tool Works, 637-697 Northland Ave., Buffalo 11, N. Y.
Nicholson File Co., 23 Acorn St., Providence 6, R. I.

Niles Fire Brick Co., 165 E. Park Ave., Niles, Ohio.
Norgren, C. A. Co., 222 Santa Fe Dr., Denver 9, Colo.
Norris-Thermador Corp., 5215 S. Boyle Ave., Los Angeles 58, Calif.
North American Mfg. Co., 2910 E. 75th St., Cleveland 4, Ohio.
North American Philips Co., Inc., Elmet Division, Lisbon Road, Lewiston, Maine.
North American Philips Co., Inc., Research & Control Instruments Div., 750 S. Fulton Ave., Mt. Vernon, N. Y.
North American Press, 728 N. 7th St., Milwaukee 1, Wis.
North American Refractories Co., 1012 National City Bank Bldg., Cleveland 14, Ohio.
Northeast Metals Co., 4124 Torresdale Ave., Philadelphia 24, Pa.
Northern Indiana Brass Co., 935 Plum St., Elkhart, Ind.
Northern Engineering Works, 2615 Atwater St., Detroit 7, Mich.
Northrop Aircraft, Inc., Hawthorne, Calif.
Northwest Chemical Co., 9310 Roselawn, Detroit, Mich.
Norton Co., 1 New Bond St., Worcester 6, Mass.
Nox Rust Chemical Corp., 2443 S. Halsted St., Chicago 8, Ill.
Nu-Jett Products Corp., 1355 Michigan Ave., N.E., Grand Rapids, Mich.
Nu-Matic Grinders, Inc., 8224 Carnegie Ave., Cleveland 3, Ohio.
Nu Steel Co., 1714 S. Ashland Ave., Chicago 8, Ill.
Nutt, The Buell W. Co., 2225 S. Hoover St., Los Angeles, Calif.
Nye Tool & Machine Co., 4120 Fullerton Ave., Chicago 39, Ill.

O

O. Z. Electrical Mfg. Co., Inc., 262 Bond St., Brooklyn 2, N. Y.
Oakite Products, Inc., 19 Rector St., New York 6, N. Y.
Ohio Carbon Co., The, 12508 Berea Rd., Cleveland 11, Ohio.
Ohio Crankshaft Co., Tocco Div., 3800 Harvard Ave., Cleveland 1, Ohio.
Ohio Injector Co., 200 S. Injector St., Wadsworth, Ohio.
Ohio Nut & Bolt Co., 25 First Ave., Berea, Ohio.
Ohio Seamless Tube Co., 132-140 W. Main St., Shelby, Ohio.
Ohlen Bishop Mfg. Co., 901 Ingleside Ave., Columbus 8, Ohio.
Ohmer, George H., P. O. Box 34, Sta. D, Dayton 10, Ohio.
Ohmite Mfg. Co., 4835 W. Fluornoy St., Chicago 44, Ill.
Ohmstede Machine Works, 897 N. Main St., Beaumont, Tex.
Oklahoma Oxygen Co., 2750 Sand Spring Rd., P. O. Box 910, Tulsa 1, Okla.
Okonite Co., 946 Canal St., Passaic, N. J.
Olsen, Lester S., 505 W. Cherry St., Milwaukee 12, Wis.
Olympic Glove Co., 95 Madison Ave., New York 16, N. Y.
Omicon Co., The, 532 W. Windsor Rd., P. O. Box 907, Glendale 4, Calif.
Onan, D. W., & Sons, Inc., University Ave., S. E., at 25th, Minneapolis 14, Minn.
O'Neil-Irwin Mfg. Co., 300 8th Ave., Lake City, Minn.
Optimus Equipment Co., Matawan, N. J.
Osage Metal Co., Inc., 1413 S. Blackwelder Ave., P. O. Box 2445, Oklahoma City, Okla.
Osborn Mfg. Co., 5401 Hamilton Ave., Cleveland 14, Ohio.
Osmundson Spade Mfg. Co., 1524 Third St., Perry, Ia.
Oster Mfg. Co., 2057 E. 61st Pl., Cleveland, Ohio.
Overly, Chas. F., Co., 1753 Rosedale Ave., Cleveland 12, Ohio.
Overbeke-Kain Co., 21034 Aurora Rd., Bedford, Ohio.
Owatonna Tool Co., 340 N. Cedar St., Owatonna, Minn.
Owen Electric Co., Fayetteville, N. C.
Oxford Tool Co., 1633-5-7 N. 2nd St., Philadelphia 22, Pa.
Oxigeno de Tampico, S. A., Apartado No. 770, Tampico, Tamps., Mexico.
Oxo Welding Equipment Co., Cedar and Oak Sts., New Lenox, Ill.

P

Paasche Airbrush Co., 1909 Diversey Pkwy., Chicago 14, Ill.
Pacific Acetylene Co., 2205 Newton Ave., San Diego, Calif.
Pacific Carbide & Alloys Co., P. O. Box 5607, Kenton Station, Portland 17, Ore.
Pacific Engrg. Corp., 3123 San Fernando Rd., Los Angeles 41, Calif.
Pacific Hardware & Steel Co., Inc., 106 Stockton Ave., San Jose, Calif.
Pacific Oxygen Co., 2205 Magnolia St., Oakland 7, Calif.
Pacific Transducer Corp., 11921 W. Pico Blvd., Los Angeles, Calif.
Pacific Welding Alloys Mfg. Co., 310 N. Avenue 21, Los Angeles 31, Calif.
Page Steel & Wire Div., American Chain & Cable Co., Inc., Monessen, Pa.
Paine Co., The, 2 Westgate-Addison, Chicago, Ill.
Pako Corp., Minneapolis 11, Minn.
Pal-Weld Mfg. Co., 103 Lander St., Seattle 4, Wash.
Palmer Shile Co., 16000 Fullerton, Detroit, Mich.
Pandjiris Weldment Co., The, 5151 Northrup Ave., St. Louis 10, Mo.
Papec Machine Co., Shortville, N. Y.
Pangborn Corp., Hagerstown, Md.
Paranite Wire Cable Div., Essex Wire Corp., 1601 Wall St., Ft. Wayne 6, Ind.
Park Chemical Co., 8074 N. Military, Detroit, Mich.
Park Metalware Co., Orchard Park, N. Y.
Parker, Charles Co., 50 Hanover St., Meriden, Conn.
Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio.
Parker Kalon Corp., 200 Varick St., New York 14, N. Y.
Parsons Engineering Corp., 2545 E. 79th St., Cleveland 4, Ohio.
Patrol Valve Co., 2310 Superior Ave., Cleveland 14, Ohio.
Patent Specialties, Inc., 10307 N. W. 7th Ave., Miami 38, Fla.
Paul C. Roche Co., Inc., 11 Park Place, New York 7, N. Y.
Paulsen Webber Cordage Corp., 170-176 John St., New York 7, N. Y.
Peck, Cecil C., Co., 14901 Woodworth Rd., Cleveland 10, Ohio.
Peck, Stow & Wilcox Co., Center St., Southington, Conn.
Pedrick Tool & Mach. Co., 3640 N. Lawrence St., Philadelphia 40, Pa.
Peer Inc., 1200 Milton St., Benton Harbor, Mich.
Peerless Machine Co., 1600 Junction Ave., Racine, Wis.
Peninsular Grinding Wheel Co., 729 Meldrum Ave., Detroit 7, Mich.
Pennsylvania Optical Co., 234 S. Eighth St., Reading, Pa.
Penn Tool & Machine Co., Danville, Ill.
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Philadelphia, Pa.
Penton Publishing Co., The Penton Bldg., Cleveland 13, Ohio.
Perfect Glove Co., Inc., 102 E. Walnut St., Milwaukee 12, Wis.
Perfection Stove Co., 7609 Platt Ave., Cleveland 4, Ohio.
Permagile Corp. of America, The, New York, N. Y.
Perma-latem Welding Alloys, Inc., 209 Patterson Ave., Red Bank, N. J.
Peters-Dalton, Inc., 17902 Ryan Rd., Detroit 12, Mich.
Petersen Mfg. Co., Dewitt, Neb.
Peterson Welding Laboratories, Inc., 1423 Virginia Ave., Kansas City 6, Mo.
Phelps Dodge Copper Products Corp., 40 Wall St., New York 5, N. Y.
Philadelphia Chain Block & Mfg. Co., Inc., Mascher & Norris Sts., Philadelphia 22, Pa.
Philadelphia Quartz Co., 1146 Public Ledger Bldg., 6th & Chestnut Sts., Philadelphia 6, Pa.
Philips Electrical Ltd., Century House, Shaftesbury Ave., London W.C. 2, England.
Phillips, C. E., & Co., 2750 Poplar St., Detroit 8, Mich.
Phillips Mfg. Co., 3475 Touhy Ave., Chicago 45, Ill.
Phoenix Products Co., 4715 N. 27th St., Milwaukee 16, Wis.
Phosphor Bronze Corp., 20 Franklin St., Seymour, Conn.
Photologue Publishing Co., 600 W. Jackson Blvd., Chicago 6, Ill.
Photoswitch, Inc., 77 Broadway, Cambridge 42, Mass.
Photovolt Corp., 97 Madison Ave., New York 16, N. Y.
Picker X-Ray Corp., 25 S. Broadway, White Plains, N. Y.
Pickett & Eckel, Inc., 1109 S. Fremont Ave., Alhambra, Calif.
Pierce Governor Co., Inc., The, P.O. Box 1000, 1601 Ohio Ave., Anderson, Ind.
Pigg, Marvin H., 928 Arnold St., Galesburg, Ill.
Pilotrol Corp., P. O. Box 172, Springfield, N. J.
Pioneer Welding Mfg. Co., 934 2nd St., Kalamazoo, Mich.
Pipe Line Development Co., 18814 Detroit Ave., Cleveland 7, Ohio
Pitman Publishing Corp., 2 W. 45th St., New York 19, N. Y.
Pittsburgh Metals Purifying Co., 1352 Marvista St., Pittsburgh 12, Pa.
Pittsburgh Plate Glass Co., Brush Div., 3221 Frederick Ave., Baltimore 29, Md.
Pittsburgh Steel Co., 1642 Grand Bldg., Pittsburgh 30, Pa.
Plastal Mfg. Co., 1212 E. Green St., Pasadena 5, Calif.
Plastic Wire & Cable Co., 403 E. Main St., Jewett City, Conn.
Platz Co., Inc., 20433 Sherwood Ave., Detroit 34, Mich.
Plibrico Jointless Firebrick Co., 1800 Kingsbury St., Chicago 14, Ill.
Plomb Tool Co. 2000 Santa Fe Ave., Los Angeles 54, Calif.
Plumb, Fayette R., Inc., 4837 James St., Philadelphia 37, Pa.
Plykrome Corp., 70 Pine St., New York 5, N. Y.
Pocahontas Welding Supply Co., Bluefield, W. Va.
Poly Prods. Co., 230 E. Pomona Ave., Monrovia, Calif.
Popular Mechanics, 200 E. Ontario, Chicago 11, Ill.
Portable Electric Tools, Inc., 320 W. 83 St., Chicago 20, Ill.
Porter-Cable Machine Co., 68 Exchange St., Syracuse, N. Y.
Porter, C. O., Machinery Co., 666 Front Ave., Grand Rapids 7, Mich.
Porter, H. K., Inc., 74 Foley St., Somerville 43, Mass.
Portomeg, Inc., 1511 E. 9 Mile Rd., Ferndale 20, Mich.
Port-O-Matic, Inc., Hillsboro, Oregon.
Potter Instrument Co., 115 Cutter Mill Rd., Great Neck, N. Y.
Powder-Weld Process Co., 419 Kent Ave., Brooklyn 11, N. Y.
Powell, Wm., Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.
Power Tools, 1931 Univ. Ave., Minneapolis, Minn.
Pratt-Brayman Co., Oscoda, Mich.
Pratt & Whitney Div., 1 Charter Oak Blvd., Niles-Bement-Pond Co., West Hartford 1, Conn.
Precision Electronic Research Co., Glendora, Calif.
Precision Grinding Wheel Co., Inc., 8301 Torresdale Ave., Philadelphia 36, Pa.
Precision Scientific Co., 1736-54 N. Springfield Ave., Chicago 47, Ill.
Precision Tool & Mfg. Co., 1305 S. Laramie, Cicero, Ill.
Precision Tool Sales, 417 E. Florence, Los Angeles, Calif.
Precision Welder & Flexopress Corp., 3520 Ibsen Ave., Cincinnati 9, Ohio.
Precision Welder Mfg. Co., 660 W. Grand Ave., Chicago, Ill.
Prenco Prods., Inc., 507 E. 10 Mile Rd., Hazel Park, Mich.
Pressed Steel Tank Co., 1445 S. 66th St., Milwaukee 14, Wis.
Presstite Engrg. Co., 3900 Chouteau Ave., St. Louis 10, Mo.
Pressure Products Corp., Edgerton, Wis.
Pressure Products Co., West Chester, Pa.
Price & Rutzebeck Co., P. O. Box 30, Hayward, Calif.
Prier Brass Mfg. Co., 7719 15th St., Kansas City, Mo.
Primeweld Corp., 8850 Mark Twain, Detroit 28, Mich.
Production Devices, Inc., N. William St., Whitehall, N. Y.
Progressive Welder Sales Co., 3070 E. Outer Drive, Detroit 34, Mich.
Pulmosan Safety Equip. Corp., 644 Pacific Street, Brooklyn 17, N. Y.
Punch-Lok Co., 321 N. Justine St., Chicago 25, Ill.
Pure Carbon Co., Inc., 441 Hall Ave., St. Mary's, Pa.
Pure Carbonic Co., New York 17, N. Y.
Puritan Compressed Gas Corp., 2012 Grand Ave., Kansas City 8, Missouri.
Purity Cylinder Gases, Inc., 574 S. Division Ave., Grand Rapids 3, Mich.
Purnell Alloy Co., P.O. Box 158, Angleton, Tex.
Pyle-National Co., 1334 N. Kostner Ave., Chicago 51, Ill.
Pynosol Laboratories, Inc., 1714 S. Ashland Ave., Chicago 8, Ill.
Pyramid Instrument Corp., 630 Merrick Rd., Lynbrook, N. Y.
Pyramid Steel Co., 4527 Hough Ave., Cleveland 3, Ohio.
Pyrene Mfg. Co., 560 Belmont Ave., Newark 8, N. J.
Pyrometer Service Co., Inc., 348 River Rd., North Arlington, N. J.

Q

Quadriga Mfg. Co., 213 W. Grand Ave., Chicago 10, Ill.
Quaker Chem. Prods. Corp., Elm & Lime Sts., Conshohocken, Pa.
Quaker Rubber Corp., Tacony & Comly Sts., Philadelphia 24, Pa.
Quality Tools Corp., New Wilmington, Pa.
Quigley Co., Inc., 527 5th Ave., New York 17, N. Y.
QuiJada Tool Co., Inc., 5474 Alhambra Ave., Los Angeles 32, Calif.

R

R-D Co., P. O. Box 912, Flint, Mich.
R-S Prods. Corp., 4530 Germantown Ave., Philadelphia 44, Pa.
Rabin Glove Co., 407 Grove St., Jersey City, N. J.
Racine Glove Co., Inc., Box 38, Rio, Wis.
Racine Tool & Machine Co., 1760 State St., Racine, Wis.
Radiant Lamp Corp., 300 Jelliff Ave., Newark 8, N. J.
Radio Corp. of America, Camden, N. J.
Radio Corp. of America, R.C.A. Tube Dept., 415 S. 5th St., Harrison, N. J.
Radio Frequency Co., 44 Park St., Medfield, Mass.
Radium Chemical Co., Inc., 570 Lexington Ave., New York 22, N. Y.
Ragel, J. M. Industries, 4029 Indiana Ave., Kansas City 30, Mo.
Railway Track Work Co., Clementine, Thompson & Mercer Sts., Philadelphia, Pa.
Randall Graphite Bearings, Inc., 207 E. Market, Lima, Ohio.
Randall Mfg. Co., 706 Independence Ave., Kansas City, Mo.
Randolph Laboratories, Inc., 8 E. Kinzie St., Chicago 11, Ill.
Rankin Mfg. Co., 616 Marengo Ave., Alhambra 2, Calif.

Ransome Mfg. Co., 4030 Hollis St., Emeryville, Calif.
Rapid Electric Co., 2881 Middletown Rd., New York 61, N. Y.
Rapid Mfg. Co., Inc., 6305 San Fernando Rd., Glendale 1, Calif.
Rapiddesign, Inc., 111-B S. Orange St., Glendale 4, Calif.
Rasmussen Iron Works, 1007 W. Philadelphia St., Whittier, Calif.
Ray Proof Corp., 513 W. 54th St., New York 19, N. Y.
Raybestos Manhattan, Inc., Manhattan Rubber Div., 61 Willett St., Passaic, N. J.
Raybestos-Manhattan, Inc., 42 Towsend St., Passaic, N. J.
Raytheon Mfg. Co., Equipment Sales Div., 100 River Street, Waltham 54, Mass.
Raymond Corp., 239-126 Madison St., Greene, N. Y.
Reading, Pratt & Cady Valve Div., American Chain & Cable Co., Inc., Reading, Pa.
Ready-Power Co., 11231 Freud Ave., Detroit, Mich.
Read Standard Corp., 370 Lexington Ave., New York 17, N. Y.
Red Devil Tools, Inc., 130 Colt St., Irvington, N. J.
Ree Associates, 30 Queen Anne Rd., Bogota, N. J.
Reed Mfg. Co., 1425 W. 8th St., Erie, Pa.
Reed Roller Bit Co., Cleco Div., 5125 Clinton Dr., Houston, Texas.
Rees, Mackworth G., Inc., 1573 E. Forest Ave., Detroit 7, Mich.
Reid-Avery Co., Inc., The, Cleveland & Chesapeake Ave., Dundalk, Baltimore 22, Md.
Reiner & Campbell Co., Inc., 19 Euclid Ave., Newark, N. J.
Reinhold Publishing Corp., 330 W. 42nd St., New York 36, N. Y.
Reliance Electric & Engrg. Co., 1088 Ivanhoe Rd., Cleveland, Ohio.
Reliance Steel Div., Detroit Steel Corp., 1170 Ivanhoe Rd., Cleveland 10, Ohio.
Reltool Corp., 4540 W. Burnham St., Milwaukee 14, Wis.
Remont Manufacturing Co., 13th & Meyers Rd., Lombard, Ill.
Resisto-Loy Co., 127 Baylis St., S.W., Grand Rapids 7, Mich.
Republic Drill & Tool Co., 322 S. Green St., Chicago, Ill.
Republic Rubber Div., Lee Rubber & Tire Corp., Albert St., Youngstown 1, Ohio.
Republic Steel Corp., Republic Bldg., Cleveland 1, Ohio.
Research Industries, Ltd., 419 Book Bldg., Detroit 26, Mich.
Resistance Welder Corp., 116 First St., Bay City, Mich.
Resistance Welder Mfrs. Assn., 1900 Arch St., Philadelphia, Pa.
Resisto-Loy Co., 127 Baylis St., S. W., Grand Rapids 7, Mich.
Resistoflex Corp., 39 Planseon St., Belleville 9, N. J.
Revco, Inc., 1900 Lyndale Ave., S., Minneapolis, Minn.
Revere Copper & Brass, Inc., 230 Park Ave., New York 17, N. Y.
Revolvator Co., U. S. Route 1, North Bergen, N. J.
Rex Welder & Engrg. Co., 400 Southwest Blvd., Kansas City 8, Mo.
Reynolds Metals Co., 2500 S. 3rd St., Louisville 1, Ky.
Richards, Arklay S., Co., Inc., 72 Winchester St., New Highlands 61, Mass.
Richards Wilcox Mfg. Co., 176 3rd St., Aurora, Ill.
Rice-Peterson Sales, Inc., P. O. Box 1114, Palo Alto, Calif.
Ridge Tool Co., 400 Clark St., Elyria, Ohio.
Riehle Testing Machines Div., American Machine & Metals, Inc., East Moline, Ill.
Riverside Iron & Engineering Works, Ltd., 803 24th Ave., S. E., Calgary, Alberta, Canada.
Riverside Machinery Co., 10632 S. Michigan Ave., Chicago, Ill.
Riverside Metal Co., Riverside, Burlington Co., N. J.
Rivett Lathe & Grinder, Inc., 18 Riverview Road, Brighton 35, Boston, Mass.
Robert J. Kelly Mfg. Co., P. O. Box 4938 Redford Sta., Detroit 19, Mich.
Robbins & Myers, Inc., 1345 Lagonda Ave., Springfield 99, Ohio.
Roberts Weldon, Rubber Co., 351-365 Sixth Ave., Newark 7, N. J.
Robertson Mfg. Co., S. Pennsylvania Ave. & Green St., Morrisville, Pa.
Robotron Corp., 21300 W. 8 Mile Rd., Detroit 19, Mich.
Robvon Corp., 675 Garden St., Elizabeth, N. J.
Roche Co., Inc., Paul C., 11 Park Place, New York 7, N. Y.
Rockuber Corp., Rapid City, S. D.
Rockwell, W. S., Co., 50 Church St., New York 7, N. Y.
Roden, Philip Co., 1721 E. Lake Bluff Blvd., Milwaukee 11, Wis.
Rodgers Welding Supply, 350 Masten Ave., Buffalo, N. Y.
Roebling's Sons Corp., John A., 640 S. Broad St., Trenton 2, N. J.
Roesch Tool Products, 3338 S. Robertson Blvd., Los Angeles 34, Calif.
Rome Cable Corp., Ridge St., Rome, N. Y.
Ronald Press Co., 15 E. 26th St., New York 10, N. Y.
Roots Connersville Blower Corp., 900 W. Mount St., Connersville, Ind.
Ross, J. O., Engineering Corp., 350 Madison Ave., New York 17, N. Y.
Ross Operating Valve Co., 120 E. Golden Gate Ave., Detroit 3, Mich.
Rotor Tool Co., The, 26300 Lakeland Blvd., Cleveland, Ohio.
Round, David & Son, Aurora & Solon Rd., Cleveland 5, Ohio.
Royal Arc Industries, Inc., Chillicothe, Ill.
Roylyn, Inc., 1706 Standard Ave., Glendale 1, Calif.
Royson Engineering, Hatboro, Pa.
Rubber & Asbestos Corp., 225 Belleville Ave., Bloomfield, N. J.
Rubicon Co., Ridge Ave. at 35th St., Philadelphia, Pa.
Ruby Chemical Co., The, 68-70 McDowell St., Columbus 8, Ohio.
Ruemelin Mfg. Co., 3860 N. Palmer St., Milwaukee 12, Wis.
Russell Electric Co., 4501 S. Western Blvd., Chicago, Ill.
Russell, Frank, Glove Co., Berlin, Wis.
Rust Oleum Corp., 2413 Oakton St., Evanston, Ill.
Rustless Iron & Steel Corp., Baltimore 13, Md.
Ryerson, J. T., & Son, Inc., P. O. Box 8000-A Chicago 80, Ill.
Ryman Engineering Co., Inc., 523 Spring Ave., Elwood City, Pa.

S

S & L Mfg. Co., Gardena, Calif.
S. C. Leather Co., 819 5th Ave., Pittsburgh 19, Pa.
S-M-S Corp., 1165 Harper Ave., Detroit 11, Mich.
Sabine Oxygen Co., P. O. Box 756, Pt. Arthur, Texas.
Safety Clothing & Equip. Co., 1990 E. 69th St., Cleveland 3, Ohio
Safety First Supply Co., 425 Magee St., Pittsburgh 19, Pa.
Safety Gas Lighter Co., 56 Sanderson Ave., Lynn, Mass.
Safety Grinding Wheel Co., 2258 Columbus Ave., Springfield, Ohio
St. John X-Ray Lab., Califon, N. J.
St. Pierre Chain Corp., 50 Frank St., Worcester 4, Mass.
Salem Tool Co., 767 S. Ellsworth Ave., Salem, Ohio
Sales Service Mach. Tool Co., 2349 University Ave., St. Paul 4, Minn.
Salkover Metal Processing of Illinois, Inc., 2550 Edgington Ave., Franklin Park, Ill.
Salsbury Corp., 1161 E. Florence Ave., Los Angeles 1, Calif.
Sand-O-Flex Corp., 4373 Melrose Ave., Los Angeles 27, Calif.
Sandusky Abrasive Wheel Co., 623 W. Ransom St., Kalamazoo 18, Mich.
Sandvik Saw & Tool Corp., 47 Warren St., New York 7, N. Y.
Sasgen Derrick Co., 3101 W. Grand Ave., Chicago 22, Ill.
Saxton Mfg. Co., 1517 N. Potrero., El Monte, Calif.
Saylor Beall Mfg. Co., St. John, Mich.
Scherr, George, Co., Inc., 200 Lafayette St., New York, N. Y.
Schmieg Industries, Inc., P. O. Box 4701, Detroit 34, Mich.
Schoenberger, J. W., Co., 8810 Harvard St., Cleveland, Ohio
Scholtz Engrg. Works, Waterloo, Iowa
Schrader's Son, A., Div. of Scovill Mfg. Co., Inc., 470 Vanderbilt Ave., Brooklyn 17, N. Y.
Schramm, Inc., West Chester, Pa.
Schwerdtle Stamp Co., 166 Elm St., Bridgeport 3, Conn.
Sciaky Bros., Inc., 4915 W. 67th St., Chicago 38, Ill.
Scientific Electric, 119 Monroe St., Garfield, N. J.
Scientific Research Co., 1618 N. Vancouver Ave., Portland 12, Ore.
Scott Mfg. Co., 11 E. 17th St., Kansas City 8, Mo.
Scovill Mfg. Co., 99 Mill St., Waterbury 20, Conn.
Seal-Seat Co., 2326 Sawtelle Blvd., Los Angeles, Calif.
Sears, Roebuck & Co., 925 S. Homan Ave., Chicago 7, Ill.
Security Valve Co., 410 N. San Fernando Rd., Los Angeles 31, Calif.
Seelye Craftsmen, Ind. Plastics Div., 984 Central Ave., Minneapolis, Minn.
Selas Corp. of America, Dresher, Pa.
Sellstrom Mfg. Co., 226 Hicks Rd., Palatine, Ill.
Service Machine Co., 156 Miller St., Elizabeth 4, N. J.
Seymour Mfg. Co., The, 15 Franklin St., Seymour, Conn.
Sharon Steel Corp., Sharon, Pa.
Shawinigan Products Corp., Empire State Bldg., 350 Fifth Ave., New York 1, N. Y.
Shallcross Mfg. Co., 520 Pusey Ave., Collingdale, Pa.
Shepard-Niles Crane & Hoist Co., 472 Schuyler Ave., Montour Falls, N. Y.
Sherman & Co., 36-07 Prince St., Flushing, N. Y.
Sherman, H. B., Mfg. Co., 22 Barney St., Battle Creek, Mich.
Shieldalloy Corp., West Blvd., Newfield, N. J.
Shielded Stud Welding Co., 124 W. 4th St., Los Angeles, Calif.
Shivell-Hall Co., 501 5th Ave., New York 17, N. Y.
Shober Sales, Inc., 900 W. Weber Ave., Stockton, Calif.
Shook Bronze Corp., Greenlawn & Lake Sts., Lima, Ohio
Shoot-A-Lite Corp., 75 West St., New York 6, N. Y.
Shrader, F. W., Co., 5788 W. Washington Blvd., Culver City, Calif.
Sierra Oxygen Co., 1300 East Second St., Reno, Nev.
Sierra Welding Flux Co., P. O. Box 272, Temple City, Calif.
Siewek Tool Co., 2862 E. Grand Blvd., Detroit 2, Mich.
Sight Feed Generator Co., P. O. Box No. 38, West Alexandria, Ohio
Sightmaster Corp., 111 Cedar St., New Rochelle, N. Y.
Silent Glow Oil Burner Corp., 850 Windsor St., Hartford, Conn.
Silent Hoist & Crane Co., 841 63rd St., Brooklyn 20, N. Y.
Silicone Paper Co., of Amer., Inc., 230 Park Ave., New York, N. Y.
Simonds Abrasive Co., Tacony & Fraley Sts., Philadelphia 37, Pa.
Simonds Saw & Steel Co., 470 Main St., Fitchburg, Mass.
Simonds, Worden, White Co., Summit St. at Negley Pl., Dayton 7, Ohio
Simplex Wire & Cable Co., 79 Sidney St., Cambridge 39, Mass.
Simplicity Engineering Co., Durand, Mich.
Singer Glove Mfg. Co., 860 W. Weed St., Chicago 22, Ill.
Singer Leather Co., 129 N. 12th St., Philadelphia 7, Pa.
Sinonski, Gilbert S., 401 N. Broad St., Philadelphia 8, Pa.
SKIL Corp., 5033 Elston Ave., Chicago 30, Ill.
Smith, A., & Son, Inc., 1239 Ridge Ave., Philadelphia 23, Pa.
Smith, A. O., Corp., 3533 N. 27th St., Milwaukee 1, Wis.
Smith Bros. & Hughes, 5304 Banks St., San Diego, Calif.
Smith, Gordon & Co., Inc., 348 College St., Bowling Green, Ky.
Smith, G. W., & Sons, Inc., 5400 Kemp Rd., Dayton 3, Ohio
Smith, Seymour, & Sons, Inc., Box 591, Oakville, Conn.
Smith Welding Equip. Corp., 2633 4th St., S. E., Minneapolis 14, Minn.
Smooth-On Mfg. Co., 572 Communipaw Ave., Jersey City 4, N. J.
Snap Tite, Inc., 1710 French St., Erie, Pa.
So-Lo Works, Twight Wee Rd., Loveland, Ohio
Solar Aircraft Co., 2200 Pacific Hwy., San Diego 12, Calif.
Solo Horton Brush Co., Inc., 135 W. 19th St., New York 11, N. Y.
Solventol Chem. Prods., Inc., 15841 2nd Blvd., Detroit 3, Mich.
Sonneborn, L., Sons, Inc., 88 Lexington Ave., New York 16, N. Y.
Southern Oxygen Co., Inc., P. O. Box 5087, Washington 19, D. C.
Southwest Welding & Mfg. Co., Alhambra, Calif.
Southwestern Industrial Electronics Co., 2831 Post Oak Rd., P. O. Box 13058, Houston 19, Texas.
S-P Mfg. Corp., 12415 Euclid Ave., Cleveland 6, Ohio
Spartan Saw Works, Inc., 152 Fisk Ave., Springfield 7, Mass.
Special Chemicals Corp., 100 S. Water St., Ossining, N. Y.
Special Engrg. Service, Inc., 8161 Livernois Ave., Detroit, Mich.
Specialty Coatings, Inc., 1085 Allegheny Ave., Oakmont, Pa.
Speedi-Burn Prods. Co., Inc., 534 Linden St., West Hempstead, N. Y.
Speedway Mfg. Co., 1834 S. 52nd Ave., Cicero 50, Ill.
Speer Carbon Co., Theresia St., St. Marys, Pa.
Spekaluminite Co., 100 S. Water St., Ossining, N. Y.
Sperry-Rand Corp., Danbury, Conn.
Spincraft Inc., 4132 W. State St., Milwaukee, Wis.
Spring Specialty Co., 1219 W. Madison St., Maywood, Ill.
Square-D Co., Industrial Controller Div., 4041 N. Richards St., Milwaukee 12, Wis.
S-S Co., 830 Humboldt St., Brooklyn 22, N. Y.
Stackpole Carbon Co., Tannery, St. Marys, Pa.
Stahl Equipment Co., 94 Washington St., Brookline Village 46, Mass.
Standard Electrical Tool Co., 2488-96 River Rd., Cincinnati 4, Ohio
Standard Electrode & Mfg. Co., 445 E. High St., Philadelphia 44, Pa.
Standard Machinery Co., 1475 Elmswood Ave., Providence 7, R. I.
Standard Portable Cord Co., Inc., P. O. Box 141, Mayville, N. Y.
Standard Pressed Steel Co., Jenkintown 13, Pa.
Standard Research Inc., 460 Grand Ave., New Haven 13, Conn.
Standard Safety Equipment Co., 232 W. Ontario St., Chicago 10, Ill.
Standard Steel & Wire Co., Bolivar, Pa.
Standard Supply Co., 460 Grand Ave., New Haven 13, Conn.
Standard Tool Co., 3950 Chester Ave., Cleveland 14, Ohio
Standard Tube Co., 24400 Plymouth Rd., Detroit 28, Mich.
Standard X-Ray Co., 1932 N. Burling St., Chicago 14, Ill.
Stanley Elec. Tools, Div. of the Stanley Works, 480 Myrtle St., New Britain, Conn.

Stanley Tools, Div. of the Stanley Works, 111 Elm St., New Britain, Conn.
Star Mfg. Co., Div. of Illinois Iron & Bolt Co., Carpentersville, Ill.
Stark Mfg. Co., Tuscaloosa, Ala.
Starrett, L. S., Co., Athol, Mass.
Stearns Magnetic, Inc., 635 S. 28 St., Milwaukee 46, Wis.
Stearns, Roger, Mfg. Co., 1720 California St., Denver 2, Colo.
Steel City Testing Machines, Inc., 8817 Lyndon Ave., Detroit 32, Mich.
Steel & Tubes Div., Republic Steel Corp., 224 E. 131 St., Cleveland 8, Ohio
Steel Sales Corp., 3348 S. Pulaski Rd., Chicago 23, Ill.
Steele Gases, Inc., 1421 Circle Ave., Forest Park, Ill.
Steiner-Ives Co., 689 Springfield Ave., Union, N. J.
Stephens-Adamson Mfg. Co., 9 Ridgeway Ave., Aurora, Ill.
Sterling Grinding Wheel Div. of The Cleveland Quarries Co., Tiffin, Ohio
Sterling Tool Products Co., 362 E. Ohio St., Chicago 11, Ill.
Sterling Utilities Co., Inc., 74 Sedgwick St., Brooklyn 2, N. Y.
Stevens, C. H., & Co., Inc., Stevens Bldg., Corn wall Bridge, Conn.
Stevens-Walden, Inc., 475 Shrewsbury St., Worcester 4, Mass.
Stewart Iron Works Co., Inc., The, 1537 Stewart Block, Cincinnati 1, Ohio
Stewart Oxygen Co., 351 California St., San Francisco, Calif.
Stewart, Tark, Box 101, Worthington, Pa.
Stewart-Warner Corp., 1826 Diversey Pkwy., Chicago 14, Ill.
Sticht Co., Inc., Herman H., 27 Park Pl., New York 7, N. Y.
Stoody Co., 11941 E. Slauson Ave., Whittier, Calif.
Stop-Fire, Inc., 125 Ashland Pl., Brooklyn 1, N. Y.
Stow Mfg. Co., 7 Shear St., Binghamton, N. Y.
Strand N. A., Div., The Balmar Corp., 5001 N. Wolcott Ave., Chicago 40, Ill.
Streichert, E. J., 1747 N. Crawford Ave., Chicago 39, Ill.
Strobel, Carl, Corp., 4700 Sante Fe, Los Angeles, Calif.
Struthers Wells Corp., 1003 Pennsylvania Ave., Warren, Pa.
Stryco Mfg. Co., 470 Natoma St., San Francisco 3, Calif.
Studebaker Machine Co., 1221 S. 9th Ave., Maywood, Ill.
Stulz-Sickles Co., 91 New Jersey Railroad Ave., Newark 5, N. J.
Sturdi-Bilt Steel Prods., Inc., 2501 Peterson Ave., Chicago 45, Ill.
Sturtevant, B. F., Co., Div. of Westinghouse Elec., Hyde Park, Boston 36, Mass.
Sulfo, Inc., 1143 E. Jersey St., Elizabeth 4, N. J.
Summit Tool & Mfg. Co., 2907 Summit St., Toledo 11, Ohio
Sun Oil Co., 1608 Walnut St., Philadelphia 3, Pa.
Sunbeam Stewart Industrial Furnace Div., Sunbeam Corp., 4433 W. Ogden Ave., Chicago 23, Ill.
Sunbury Wire Rope Mfg. Co., 880 S. 2nd St., Sunbury, Pa.
Sunshine Scientific Instrument, 1810 Grant Ave., Philadelphia 15, Pa.
Superior Air Products Co., 132 Malvern St., Newark 5, N. J.
Superior Carbon Products, Inc., 9115 George Ave., Cleveland 5, Ohio
Superior Flake Graphite Co., 33 S. Clark St., Chicago 3, Ill.
Superior Flux & Mfg. Co., 1302 Ontario St., Cleveland 13, Ohio
Superior Industrial Gas Corp., 23-24 47th St., Astoria, N. Y.
Superior Pneumatic, Div. of Bingham Herbrand Corp., 4758 Warner Rd., Cleveland 25, Ohio
Superior Oxy-Acetylene Mach. Co., 1102 High St., Hamilton, Ohio
Superior Steel Corp., Carnegie, Pa.
Superior Tube Co., 2204 Germantown Ave., Box 191, Norristown, Pa.
Superior Tube Corp., 6645 N. Oliphant, Chicago, Ill.
Superior Valve & Fittings Co., W. Liberty Ave., Pittsburgh 26, Pa.
Superior Welding Co., 3410 E. 14th St., Los Angeles 23, Calif.
Superior Welding & Machine Co., Bartlesville, Okla.
Superweld Corp., 6840 Vineland Ave., North Hollywood, Calif.
Surface Combustion Corp., 2375 Dorr St., Toledo 7, Ohio
Swartwout Co., 18511 Euclid Ave., Cleveland 12, Ohio
Swartz & White Mfg. Co., Binghamton Flexible Shaft Div., 486 Chenango St., Binghamton, N. Y.
Swedish Iron & Steel Corp., 17 Battery Pl., New York, N. Y.
Swift Electric Welder Co., 8095 Livernois St., Detroit 4, Mich.
Swiss Laboratory, 1533 Hamilton Ave., Cleveland 14, Ohio
Sylvania Electric Products, Inc., 1740 Broadway, New York 19, N. Y.
Sylvania Electric Prods., Inc., Tungsten & Chemical Div., P. O. Box 70, 718 Main St., Towanda, Pa.
Synchro Electronic Corp., 1565 Railroad Ave., Bridgeport, Conn.
Syntron Co., 815 Lexington Ave., Homer City, Pa.
Syracuse Alloy Metals Corp., 114 S. Salina St., Syracuse 2, N. Y.
Syracuse Special Machine Co., Syracuse, N. Y.

T

Taco West Corp., 2620 S. Park Ave., Chicago, Ill.
Tal Bender, Inc., 417 N. Water St., Milwaukee 2, Wis.
Taylor, S. G., Chain Co., 141st St., Hammond, Ind.
Taylor Cylinder Div., Cuneo Press, 2262 S. Grove St., Chicago, Ill.
Taylor Forge & Pipe Works, P. O. Box 485, Chicago 90, Ill.
Taylor-Wharton Iron & Steel Co., High Bridge, N. J.
Taylor Winfield Corp., The, Mahoning Ave., N. W., Warren, Ohio
Tec Welding Co., 300 Paterson Ave., Carlstadt, N. J.
Technical Operations, Inc., Arlington, Mass.
Technicon Design & Mfg. Co., 262 Mott St., New York 12, N. Y.
Techno Products Inc., 1908 E. 66th St., Cleveland, Ohio
Techtmann Industries, 407 E. Michigan St., Milwaukee, Wis.
Tempil Corp., 132 W. 22nd St., New York 10, N. Y.
Templeton, Kenly & Co., Gardner Road & 16th St., Broadview, Ill.
Temprite Products Corp., 1345 W. Maple, Troy Twp., Detroit, Mich.
Tenn. Coal, Iron & R. R. Co., United States Steel Corp., 1010 Brown-Marx Bldg., 20th St. & 1st Ave., N., P. O. Box 2634, Birmingham 3, Ala.
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Tex-Air Gas Co., Inc., 211 Buchanan St., Amarillo, Texas
Thermacote Welding Products, Div., Holiday Plastics, Inc., 1005 Santa Fe Ave., Los Angeles 21, Calif. and 301 Mt. Pleasant Ave., Newark 4, N. J.
Thermco Laboratories, Johnson Rd., Michigan City, Ind.
Thermex Equip. Co., 3436 Book Bldg., Detroit, Mich.
Thermo Elec. Mfg. Co., 480 W. Locust St., Dubuque, Iowa
Thermoid Hose Co., 885 Parkside Ave., Trenton, N. J.
Thomas & Middleton Equip. Designers, 5507 Waters Drive, Savanah, Ga.
Thomas Machine Mfg. Co., Butler Road, Pittsburgh 23, Pa.
Thomas Truck & Caster Co., 74 Mississippi River, Keokuk, Iowa
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Thompson Engrg. Co., 220 Winchester, N. E., Grand Rapids 2, Mich.
Thompson, H. G., & Son Co., 277 Chapel St., New Haven 5, Conn.
Thompson Products, Inc., Cleveland 3, Ohio.
Thomson Electric Welder Co., 161 Pleasant St., Lynn, Mass.
Thor Power Tool Co., 175 N. State St., Aurora, Ill.
Threadwell Tap & Die Co., 16 Arch St. Greenfield, Mass.
Tillman, John & Co., 1561 W. 19th St., Long Beach 10, Calif.
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Tinkote Co., 79 Milll St., Revere 51, Mass.
Tip Top Electric Products Co., 1440 Broadway, New York 18, N. Y.
Tipaloy, Inc., 1435 E. Milwaukee Ave., Detroit 11, Mich.
Titan Metal Mfg. Co., Sieg & Craig Sts., Bellefonte, Pa.
Titanium Alloy Mfg. Div., Nat'l Lead Co., 111 Broadway, New York 6, N. Y.
Titanium Pigment Corp., 111 Broadway, New York 6, N. Y.
Titeflex, Inc., Industrial Sales, 10 Hendee St., Springfiield 4, Mass.
Tnel Mfg. Co., Box 224, 19 Collier St., Hornell, N. Y.
Toco Div., Ohio Crankshaft Co., Cleveland, Ohio.
Toledo Pipe Threading Machine Co., 1445 Summit St., Toledo 4, Ohio.
Toolcraft Mfg. Co., East Chicago, Ind.
Topeka Fdry. & Iron Wks. Co., Inc., 300 Jackson St., Topeka, Kansas.
Torit Mfg. Co., 292 Walnut St., St. Paul 2, Minn.
Tork Clock Co., Mt. Vernon, N. Y.
Torsion Balance Co., The, Clifton, N. J.
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Trane Co., The, 2nd & Cameron St., La Crosse, Wisc.
Trent Tube Co., 498 S. Church St., East Troy, Wisc.
Tri-Clover Machine Co., Kenosha, Wis.
Trimont Mfg. Co., 55 Amory St., Roxbury 19, Mass.
Trindl Products, Ltd., 1807-11 S. Clark St., Chicago, Ill.
Trinity Oxygen Co., 3851 Hemphill St., Ft. Worth 10, Texas.
Triplet & Barton, Inc., 831 N. Lake St., Burbank, Calif.
Trumbull Elec. Mfg. Co., 41 Woodford Ave., Plainville, Conn.
Tru-Ohm Products-Model Engineering & Mfg. Inc., Huntington, Ind.
Truscon Steel Co., Youngstown, Ohio
Tube Turns, Div. of National Cylinder Gas Co., 224 E. Broadway, Louisville 1, Ky.
Tube Turns Plastics, Inc., 2929 Magazine St., Louisville 11, Ky.
Tubular Alloy Steel Corp., Gary, Ind.
Tubular Micrometer Co., St. James, Minn.
Tubular Prods. Div., Babcock & Wilcox Co., Inc., The, Beaver Falls, Ohio
Tubular Service Corp., 32 Broadway, New York 4, N. Y.
Turco Prods., Inc., 6135 S. Central Ave., Los Angeles 47, Calif.
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Tweeten Fibre Co., Inc., 2031 Fulton St., Chicago 12, Ill.
Tweezer-Weld Corp., 532 Mulberry St., Newark 5, N. J.
Twentieth Century Mfg. Co., 224 W. 82nd St., Minneapolis 20, Minn.

U

Ultra-Violet Prod. Inc., South Pasadena, Calif.
Uniflex Cable Div., United Metal Craft Co., Ypsilanti, Mich.
Union Carbide & Carbon Corp., 30 East 42nd St., New York 17, N. Y.
Union Stop Fire Corp., Brooklyn, N. Y.
Union Twist Drill Co., Butterfield Div., Derby Line, Vt.
Unique Mfg. Co., 221 W. Walton St., Chicago 10, Ill.
Unique Equipment, Inc., 122 Sumpter St., Brooklyn 33, N. Y.
United Blower Co., Inc., 193 Center St., New York 13, N. Y.
United Specialty Corp., P. O. Box 698, El Dorado, Ark.
U. S. Engineering Co., 14550 Lesure Ave., Detroit 27, Mich.
United States Safety Service Co., 1215 McGee St., Kansas City 6, Mo.
U. S. Electric Welder Corp., 1258 Dorr St., Toledo 7, Ohio.
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U. S. Gauge Div., American Machine & Metals, Inc., Clymer Ave., Sellersville, Pa.
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U. S. Rubber Co., 1230 Avenue of the Americas, New York 20, N. Y.
U. S. Rubber Co., Wire & Cable Dept., 1230 Ave. of the Americas, New York 20, N. Y.
U. S. Safety Service Co., 1331 Oak St., Kansas City 6, Mo.
United States Rubber Co., 4300 New Haven Ave., Fort Wayne 4, Ind.
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U. S. Stoneware Co., 12 East Ave., Tallmadge, Ohio
United Welded Products Inc., Sussex, Wisc.
United Welders, Inc., 17622 James Couzens, Detroit 35, Mich.
United Welding Service Co., Eclipse Rd., Box 564, Franklin, Pa.
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Varkell Paul, Co., 37 West 39th St., New York 18, N. Y.
Vascoloy-Ramet Corp., 800 Market St., Waukegan, Ill.
Vega Equip. Corp., 795 Millersport Hwy., Buffalo 21, N. Y.
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Victor Electric Prods., Inc., 2950 Robertson Ave., Cincinnati 9, Ohio.
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Victor Engineering Corp., 15 Maple Ave., Paoli, Pa.
Victor Equip. Co., 840-54 Folsom St., San Francisco 7, Calif.
Victor Saw Works, Inc., 22 Cottage St., Middletown, N. Y.
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Vlchek Tool Co., 3000 E. 87th St., Cleveland, Ohio.
Vlier Engineering, Inc., 4552 Beverly Blvd., Los Angeles 4, Calif.
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Vulcan Electric Co., 88-90 Holten St., Danvers, Mass.

W

Wachs Co., E. H., The, 1525 N. Dayton St., Chicago 22, Ill.
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Wagner Mfg. Co., Inc., 350 W. Adams St., Jackson, Mo.
Walker Turner Co., Inc., South Ave. at Berckman St., Plainfield, N. J.
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Webster Instrument, Inc., 11856 Mississippi Ave., Los Angeles 25, Calif.
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Weinberg & McKee, 600 W. Jackson Blvd., Chicago 6, Ill.
Welcast Plastics Co., 50 E. Springfield Rd., Barberton, Ohio: Mailing: 721 E. Baird Ave.
Weldaloy Products Co., 11551 Stephens Dr., Van Dyke, Mich.
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Welded Truck & Specialty Co., Inc., 1302 Diversey Parkway, Chicago 14, Ill.
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Welders Needs, Inc., 3839 Doyle St., Toledo, Ohio.
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Welding Engineering Co., 136 N. 120th St., Milwaukee, Wis.
Welding Equip. & Service Co., 2123 Texas St., El Paso, Texas.
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Western Wire Prods. Co., 1314 So. 18th St., St. Louis 4, Mo.
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Westinghouse Elec. Corp., Sturtevant Div., Hyde Park, Mass.
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Whitehead Metal Products Co., Inc., 303 W. 10th St., New York 14, N. Y.
White, S. S., Plastics Div., 10 E. 40th St., New York 16, N. Y.
Whiting Corp., 157th & Lathrop Ave., Harvey, Ill.
Whitman & Barnes, 2108 W. Fort St., Detroit 16, Mich.
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Whitney, W. A. Mfg. Co., 636 Race St., Rockford, Ill.
Whittaker, Clark & Daniels, Inc., 260 Broadway, New York 13, N. Y.
Wickman Glove Co., 1827 San Pablo Ave., Berkeley 2, Calif.
Wickwire Spencer Steel Div., The Colorado Fuel & Iron Corp., 575 Madison Ave., New York 22, N. Y.
Wiese Plow Welding Co., Inc., P.O. Box 119, 1507 Bateman St., Perry, Iowa.
Wilbur & Williams Co., 130 Lincoln St., Brighton, Boston 35, Mass.
Wilcox-Crittenden & Co., Inc., 11 So. Main St., Middletown, Conn.
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Wilkie Optical, Inc., Shreve Ave. & New Jersey Turnpike, Barrington, N. J.
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Wilson Mechanical Instrument Co., Inc., 230 Park Ave., New York 17, N. Y.
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Wodack Elec. Tool Corp., 4627 W. Huron St., Chicago 44, Ill.
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Wolverine Tool Co., 1480 E. Woodbridge St., Detroit 7, Mich.
Wonder Welding Spec., 518 40th St., Oakland 9, Calif.
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Wood Lee, Inc., South Norwalk, Conn.
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Worth Steel Co., Claymont, Del.
Worthington Corp., 2nd St., Dunellen, N. J.
Worthington Corp., Positioning Equipment Div., Plainfield, N. J.
Wright Hoist Div. of Amer. Chain & Cable Co., Inc., 1100 E. Princess St., York, Pa.
WW Alloys Inc., Div. of Fansteel Metallurgical Corp., 11644 Cloverdale Ave., Detroit 4, Mich.
Wyandotte Chemicals Corp., Wyandotte, Mich.
Wyckoff Steel Co., 21st St. & Duss Ave., Ambridge, Pa.
Wyse Laboratories, 211 S. Ludlow, Dayton, Ohio.
Wyzenbeek & Staff, Inc., 838 W. Hubbard St., Chicago 22, Ill.

Y

Yale & Towne Mfg. Co., The, Phila. Div., Roosevelt Blvd. & Halderman Ave., Philadelphia 15, Pa.
Yarco Distributors, 215 W. 7th St., Los Angeles 14, Calif.
Yoder Co., 5500 Walworth, Cleveland, Ohio.
York Engrg. Co., 3349 Ogden Ave., Chicago, Ill.
Young Bros. Co., 1834 Columbus Rd., Cleveland 13, Ohio.
Young, C. W., Mfg. Co., 72 Kane St., East Syracuse 2, N. Y.
Youngstown Foundry & Machine Co., Youngstown, Ohio.
Youngstown Sheet & Tube Co., Stambaugh Bldg., Youngstown 1, Ohio.
Youngstown Welding & Engrg. Co., 3700 Oakwood Ave., Youngstown 9, Ohio.

Z

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Zucker, Myron, Engineering Co., 6432 Cass Ave., Detroit 2, Mich.
Zylo Ware Corp., 11-15 47th Ave., Long Island City 1, N. Y.

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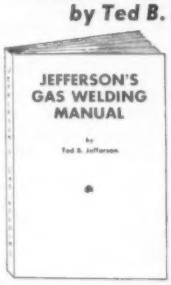

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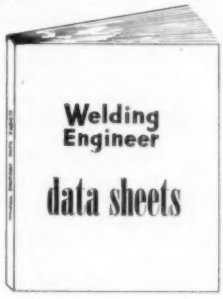

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6. Alloy Rods. Co.—Bulletin AR-6 on alloy arc-welding electrodes.
7. All-State Welding Alloys Co., Inc.—"Buyers' Guide" gives new product information on torch welding, arc welding and soldering and tinning alloys, and silver solders.
8. Arcair Co.—Booklet, "Improved Burners' Aid," on hand-cutting torch method.
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10. Aronson Machine Co.—Details offered on over 200 proven standard stock models of positioners "positioneered" to your exact requirements.
11. Aro Spot Welder Div.—Literature on portable spot welders.
12. Atlas Welding Accessories, Inc.—Information on wood and steel handle chisels.
13. Atlas Welding Accessories Co.—Details on 27 models of weld cleaning tools.
14. Atlas Welding Accessories Co.—Information on how to chip and brush with "Dual Tool."
15. Becker Bros. Carbon Co.—Catalog on carbon welder brushes for all makes of welding equipment gives complete specifications, factory numbers, scaled drawings, etc.
16. Bernard Welding Equipment Co.—Information on the "Multi-Pic" and 6 different models of weld cleaning tools.
17. Bernard Welding Equipment Co.—Booklet SS-3 on electrode holders.
18. Birdsell Products—Data on arc and spot precision welders.
19. Burdett Oxygen Co.—Catalog on "Burdox" welding and cutting equipment and supplies.
103. CBC Industries, Inc.—Information on weldor's kit.
21. Chicago Hardware Foundry Co.—Information on "Test-Well" welding test plate.
22. Chicago Hardware Foundry Co.—Folder on "Tank-Well" wrenches for acetylene tanks.
23. Chicago Hardware Foundry Co.—Data on "Flux-Well" welding fluxes, brazing compounds and aluminum fluxes.
24. Chicago Hardware Foundry Co.—Information on "'Fuse-Well" cast iron rods and electrodes.
25. Columbia Electric Mfg. Co.—Catalog WE-400 on the "Tong Test" a-c/d-c ammeter.
26. Coyne Cylinder Co.—Specification sheet and price list on acetylene cylinders.
27. Dockson Corp.—Information on torches for welding, cutting or soldering.
28. Dockson Corp.—Details on regulators for oxygen, acetylene, fuel gases, air, fluids, CO_2, etc.
29. Dockson Corp.—Information on welding outfits.
30. Dockson Corp.—Data on face shields, goggles and helmets—a complete line of head and eye protection.
31. Drawalloy Corp.—Write for bulletins on all welding wire products—stainless-steel, tool-steel, and "Wear-O-Matic" hardfacing wire.
32. Fibre-Metal Products Co.—Bulletin No. 39 on fibre and fiberglas helmets.
33. Foote Mineral Co.—Brochure, "Foote Raw Materials for Welding Rod Coatings."
34. General Split Corp.—Details on "Weldtan" work glove leather.
35. Genter Co., C. D.—Information on "Genco" welding Gloves.
36. Gumm Chemical Co., Frederick—Data on metal cleaners and special finishing and processing compounds for all metals.
37. H & M Pipe Beveling Machine Co.—Illustrated brochures on all pipe-cutting and beveling machines.
38. Hammer Blow Tool Co.—Catalog 37-H and prices on axle assemblies.
98. Harnischfeger Corp.—Bulletins on how "P&H" welding positioners can save you money in your plant.
99. Harnischfeger Corp.—Bulletin describes how "P&H" electrodes help you do a better, easier and faster job.
100. Harnischfeger Corp.—Catalogs giving full details on a-c/d-c combination welders, high frequency gas and water a-c/d-c welders, a-c welder and engine-driven arc welders.
39. Herrick Mfg. Corp., C. B.—Information on ram-type welding head manipulators.
40. Hobart Bros. Co.—Complete data on automatic welding, semiautomatic welding and welding electrodes.
41. Independent Engineering Co., Inc.—Details on how to reduce cylinder handling with gas supply trailers.
42. Invincible Vacuum Cleaner Mfg. Co.—Folder, "Flux Recovery Equipment," gives the correct type of flux recovery units for every submerged arc welding job.
43. Jackson Products—Data on cable connectors.
44. Jackson Products—Information on cable splicers.
45. Jackson Products—Details on arc welding electrode holders for lightweight and copper alloy types.
46. Jackson Products—Data on ground clamps.
47. Jackson Products—Information on 45 and 180-deg. angle cable lugs.
48. Jackson Products—Details on series 70 "Supergoggles" for gas welding and grinding.
49. Jackson Products—Data on arc-welding helmets.
50. Jackson Products—Information on safety hats, caps, and cap-and-helmet combinations.
51. Krembs & Co.—Flux chart and samples available.
52. Lincoln Electric Co.—Bulletin 467 on electrode holders, head shields, welding cable and welding lenses.
53. Lincoln Electric Co.—Descriptive bulletins on a-c/d-c combination welder, motor and engine driven d-c welders, a-c and d-c welders, automatic, semiautomatic and inert-gas welders.
54. Lincoln Electric Co.—Bulletin SB-1359 on "Fleetweld" and "Jetweld" electrodes.
55. Lincoln Electric Co.—Bulletin SB-1351 gives cost-cutting facts on "Jetweld" hand welding electrodes.
56. Lincoln Electric Co.—Arc welding Bulletin SB-1355 on "Automatic Lincolnweld," which provides continuous wire feed for high intensity arc; "Twinarc" automatic welding with two electrodes; and "Spreadarc" oscillating attachment for automatic hardfacing or build-up.
57. Lincoln Electric Co.—Bulletin 1303 on "Manual Lincolnweld" submerged arc welding.
58. Linde Air Products Co.—Information on modern methods for joining metals with Mig, Tig and submerged-arc welding; oxyacetylene welding, brazing and soldering.
59. Liquid Carbonic Corp.—Catalogs on complete lines of gas and arc welding equipment and literature on improved CO_2 Tig and Mig methods of welding.
60. Mallory & Co., Inc., P. R.—Technical information about precision-made welding materials.
61. Metal & Thermit Corp.—Complete data on thermit welding equipment.
62. Miller Electric Mfg. Co., Inc.—Information about combination a-c/d-c welders.
63. Miller Electric Mfg. Co., Inc.—Literature on power plant—welder combination.
64. Milwaukee Brush Mfg. Co.—Industrial Bulletin 55-61 and Welder's Bulletin 54-65 on power driven and hand type wire brushes for weldor's use.
65. Mine Safety Appliances Co.—Bulletin No. CO-2 gives details of combination Skullgard/welding helmet.
66. Mueller Electric Co.—Catalog CC594 on ground clamps.
67. National Cylinder Gas Co.—Write for literature and demonstration on "Sureweld" 200 amp portable d-c welder.
68. National Cylinder Gas Co.—Bulletin N-150 describing process and apparatus of fast, efficient cutting of stainless steels.
69. National Cylinder Gas Co.—Information on mild-steel, low-alloy steel, low-hydrogen, iron-powder, stainless-steel, hardfacing, cast-iron, aluminum and Monel "'Sureweld" electrodes.
70. National Cylinder Gas Co.—Write for demonstration and illustrated literature on "Cut-O-Matic" portable cutting machine with floating torch assembly.
71. National Cylinder Gas Co.—Welding and cutting apparatus details on welding torches, cutting torches and regulators.
72. National Cylinder Gas Co.—Literature on a-c shop welder, a-c industrial welders, d-c rectifier welders, inert arc welders, a-c/d-c combination welders and portable welders.
73. National Welding Equipment Co.—Illustrated brochure describes welding and flame-cutting apparatus with air gas torches.
74. Pandjiris Weldment Co.—Catalog on welding head manipulator.
75. Sellstrom Mfg. Co.—Details on face and eye protection.
76. Sellstrom Mfg. Co.—Information on

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ad literature

(Continued from page 128)

face shield No. 300.

77. Sellstrom Mfg. Co.—Data on Goggle No. 610.

78. Sellstrom Mfg. Co.—Literature on helmet No. 243 and other weldors' helmets, shields, goggles and lens.

101. Shieldalloy Corp.—"Materials Specification Booklet," on materials for the welding-electrode manufacturer (powdered metals and alloys and processed minerals and ores).

79. Shoot-A-Lite Corp.—Literature on safety gas lighter for welding and cutting torches.

80. Sight Feed Generator Co.—Leaflet on "Rexarc" hardfacing and manganese electrodes.

81. Smith Welding Equipment Corp.—Full information on "Pipeliner" welding torch and cutting assembly that cuts, welds, heats, brazes and solders.

82. S-M-S Corp.—Information on electrodes for unusual applications.

83. Standard Research, Inc.—Details on "Holdenflux" for close tolerance silver brazing.

84. Superior Air Products Co.—Catalog describes single and double rectification plants and lists production data, shows flow charts and plant layouts.

85. Sylvania Electric Products, Inc.—Technical information on four types of tungsten electrodes for inert-gas welding.

102. Tillman & Co., John—Details on aprons, cape sleeves and leather gloves.

86. Tweco Products, Inc.—Write for No. 10 "Twecolog" Bulletin which pictures and describes complete line of arc-welding cable connections and accessories.

87. Tweco Products, Inc.—Information on carbon electrode holders.

88. Tweco Products, Inc.—Details on connectors for cable connection.

89. Tweco Products, Inc.—Data on ground clamps.

90. Tweco Products, Inc.—Catalog, prices and details on lightweight, flexible and tough aluminum welding cable.

91. Tweco Products, Inc.—Literature on "Twecolugs" for welding and power cable.

92. United Wire & Supply Corp.—Fully-illustrated catalogs and price sheets on "Sil-Bond Phoson" brazing alloys.

93. Victor Equipment Co.—Details on open dealerships and complete line of hardfacing equipment.

94. Victor Equipment Co.—Information on regulators.

95. Victor Equipment Co.—Data on fluxes for brazing brass and bronze, steel, clean cast and malleable iron; for moderate heat brazing of cast; malleable iron and for high heat brazing and for cast iron welding.

96. Victor Equipment Co.—Literature on filter-regulator lubricator for use on air-operated tools and machinery.

97. Victor Equipment Co.—Literature and demonstration on cutting torches.

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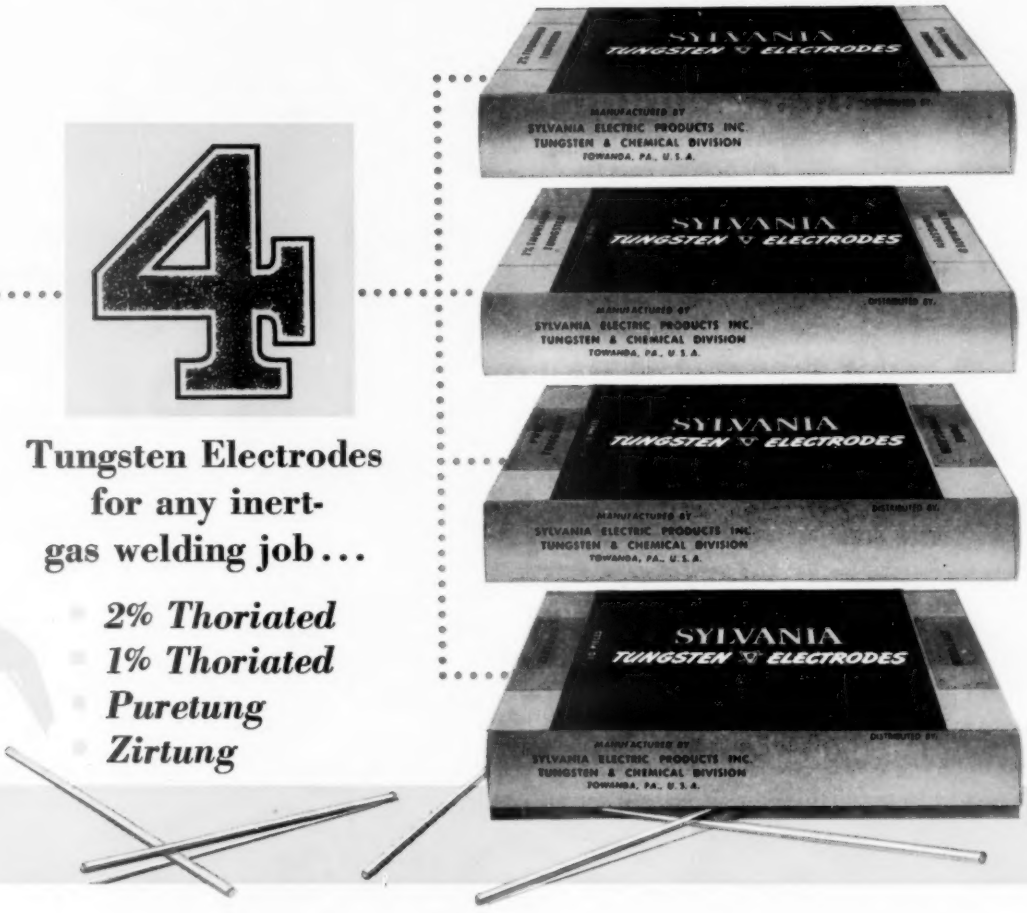

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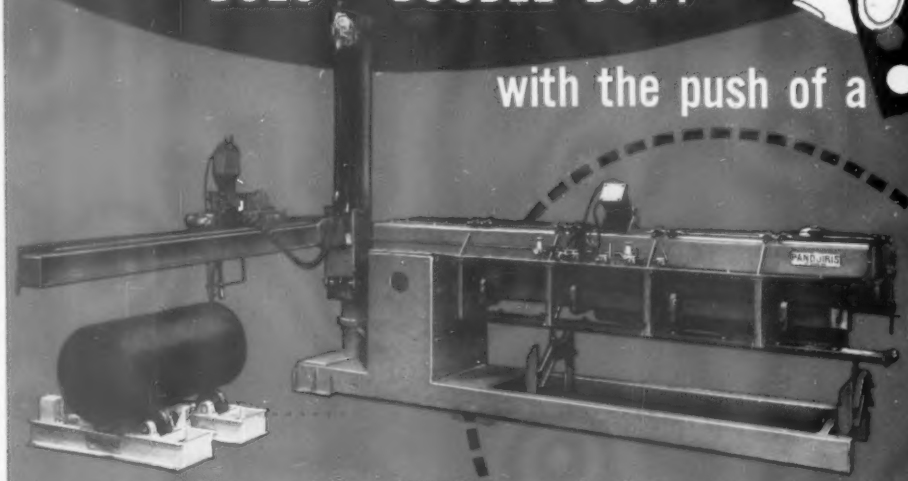

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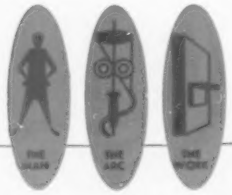

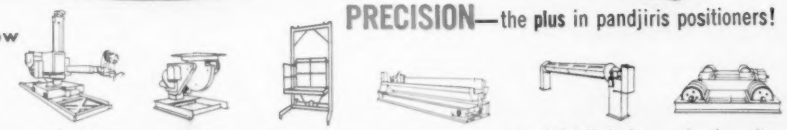

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